DOCUMENT RESUME

ED 316 757 CE 054 456

AUTHOR	Schwindt, Bob
TITLE	Introduction to Specialty Animal Production Unit for Agricultural Science I Core Curriculum. Instructor's Guide and Student Reference.
INSTITUTION	Missouri Univ., Columbia. Instructional Materials Lab.
SPONS AGENCY	Missouri State Dept. of Elementary and Secondary Education, Jefferson City. Div. of Vocational and Adult Education.
PUB DATE	Jun 89
NOTE	116p.
AVAILABLE FROM	Instructional Materials Laboratory, University of Missouri, 2316 Industrial Drive, Columbia, MO 65202 (Order No. 10-4790-I and S, $7.75).
PUB TYPE	Guides - Classroom Use - Guides (For Teachers) (052) -- Guides - Classroom Use - Materials (For Learner) (051)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	*Agribusiness; *Agricultural Education; *Animal Husbandry; Animals; Competency Based Education; *Economic Opportunities; Educational Objectives; Education Work Relationship; *Entrepreneurship; *Occupational Information; Secondary Education
IDENTIFIERS	Missouri; *Specialty Animals

ABSTRACT

The materials contained in this document are for a five-lesson course intended to introduce Missouri secondary vocational education students to many of the specialty animal enterprises available in the field of agriculture. The lessons are on speciality animal production possibilities, profitability of specialty animal enterprises, comparative economic advantages of selected specialty animal enterprises, regulations concerning specialty animal production, and marketing options for specialty animals. The teacher's materials begin with a list of student objectives, competencies, suggested motivational techniques, evaluation suggestions, one student reference, 22 references for teachers, and a competency profile on which student performance can be recorded. The lessons contain objectives, study questions, references, teaching procedures, the student competency to be evaluated, evaluation instruments, and answers to the evaluation instruments. The student materials include information sheets and references for each lesson. (CML)

****
*   Reproductions supplied by EDRS are the best that can be made   *
*   from the original document.   *
****

ED316757

MISSOURI AGRICULTURAL EDUCATION

10-4790-I

Introduction to Specialty Animal Production Unit

For
Agricultural Science I
Core Curriculum

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy

Instructor's Guide

and Student Reference

"PERMISSION TO REPRODUCE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY
K Schlichting
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

IMI

In cooperation with
Agricultural Education
Department of Practical Arts
and Vocational-Technical Education
College of Education and College of Agriculture
University of Missouri-Columbia

In cooperation with
Agricultural Education Section
Division of Vocational and Adult Education
Department of Elementary and
Secondary Education
Jefferson City, Missouri

CG 054 456

The activity which is the subject of this report was supported in whole or in part by funds from the Department of Elementary and Secondary Education, Division of Vocational and Adult Education. However, the opinions expressed herein do not necessarily reflect the position or policies of the Missouri Department of Elementary and Secondary Education or the Division of Vocational and Adult Education, and no official endorsement should be inferred.

Instructor's Guide

INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION

Writer:
Bob Schwindt
Instructional Materials Laboratory
University of Missouri-Columbia

Consulting Editor:
Bob Stewart
Agricultural Education
University of Missouri-Columbia

Veronica Feilner, Editor
Instructional Materials Laboratory
University of Missouri-Columbia
10 London Hall
Columbia, Missouri 65211

Volume 21
Number 6

Catalog Number 10-4790-I
June 1989

ACKNOWLEDGEMENTS

Recognition is given to advisory committee members for providing their valuable time and suggestions in developing this unit. The committee consisted of Dee Cee Frieling, Charles Foreman, Doug Funk, Kevin Gnuschke, Terry Heiman, Gail Hodges, Paul Light, Delbert Lund, Max Miller, and Morris Talley.

Special recognition is given to Joe Timko and Ann Mitchell for their input in the development of sections of this curriculum.

Appreciation is expressed to the following staff members of the Instructional Materials Laboratory for their efforts in producing this material: Harley Schlichting, Director; Amon Herd, Associate Director; Phyllis Miller, Assistant Director; Dan Stapleton, Assistant Director; Christen Heitkamp and Lori Holliday, Word Processors; and Karen Omer, Clerical Student Assistant.

Veronica Feilner, Editor/Project Coordinator
Instructional Materials Laboratory
University of Missouri-Columbia

Bob Stewart, Professor and Coordinator
Agricultural Education
University of Missouri-Columbia

FOREWORD

This unit, Introduction to Specialty Animal Production, represents a new addition to the current materials in the Agricultural Science I curriculum. The development of this guide is the result of suggestions by the MVATA Teaching Aids Committee. The Introduction to Specialty Animal Production Advisory Committee suggested the topics to be discussed and reviewed the materials.

This instructor's guide and the corresponding student reference are intended to be an introduction to many of the specialty animal enterprises available in the field of agriculture. The five lessons discuss possibilities for specialty animal production, profitability, economic advantages, regulations, and marketing options for specialty animals. Although this unit was developed for 10 hours of instruction, instructors can adapt the unit to the time available and the needs of the class. Emphasis should be placed on specialty animal enterprises that are important to the individual community.

This unit can assist agricultural education instructors and students in developing and conducting Supervised Agricultural Experience Programs in specialty animal production. Valuable instruction can be given in the areas of production agriculture, agribusiness, and natural resource management as it relates to specialty animal production.

During the summer of 1981, the Missouri State Board of Education formally adopted the concept of "Instructional Management Systems" (IMS) as a priority for the 1981-82 school year. The Missouri Commissioner of Education described the IMS concept as a practical way of "organizing for excellence" in education. To meet the demand for greater productivity and accountability, Dr. Frank Drake, Director of Vocational Education, applied the elements of IMS to form the Vocational Instructional Management System (VIMS). The VIMS process provides a framework to use in planning and organizing to assure excellence in Missouri's vocational education system by focusing greater attention on the management of teaching and learning.

This guide incorporates the needed component parts to aid agriculture teachers in the implementation of VIMS. For ease of use, performance objectives and competencies have been included at the beginning of the unit, as well as being incorporated within each lesson. A competency profile has been provided for convenient record keeping.

Bob R. Stewart, Professor and Coordinator
Agricultural Education
University of Missouri-Columbia

Terry Heiman, Director
Agricultural Education
Department of Elementary and
Secondary Education

6

INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION

TABLE OF CONTENTS

ACKNOWLEDGMENTS ii

FOREWORD iii

COMPETENCY PROFILE ix

Lesson 1–Possibilities for Special Animal Production 1
Lesson 2–Profitability of Specialty Animal Enterprises 9
    AS 2.1: Start-up Costs
    AS 2.2: Operating Costs
    AS 2.3: Labor Requirements
    AS 2.4: Budget (Form 103)
Lesson 3–Comparative Economic Advantages of Selected Specialty Animal Enterprises 29
    HO 3.1: Beginning Rabbit Budget - Low Investment
    HO 3.2: Standard Rabbit Budget (100)
    AS 3.1: Enterprise Comparison Chart
    AS 3.2: Beginning Budget Form
Lesson 4–Regulations Concerning Special Animal Production 45
    AS 4.1: Regulations Checklist
Lesson 5–Marketing Options for Specialty Animals 55
    AS 5.1: Market Comparison

OBJECTIVES

1. The student will be able to identify the possibilities of specialty animal production as an agricultural enterprise.

2. The student will be able to identify the possibilities of specialty animal production for profit.

3. The student will be able to identify the comparative labor and capital advantages of selected specialty animal enterprises.

4. The student will be able to identify regulations and information resources pertaining to specialty animal enterprises.

5. The student will be able to recognize marketing options and practices involving specialty animal enterprises.

NOTE: Percent of accuracy should be set by instructors to reflect passing grades within their school systems.

COMPETENCIES

1. Identify possibilities for specialty animal production.

2. Determine the profitability of selected specialty animal enterprises.

3. Evaluate the comparative advantages (labor vs. capital) of the selected specialty animal enterprise.

    c) Raising Rabbits for Beginners.

    d) Farmers Liability for Their Animals (MU Guide 453).

    e) Liability of Farm Owner and Operators for Injuries to Farm Visitors, (MU Guide 452).

2) Catfish Farming, USDA Farmers Bulletin No. 2260, U.S. Government Printing Office, Washington, D.C. 20025.

3) Eaton O. and Cabell, C. H. Raising Laboratory Mice and Rats, USDA Leaflet No. 253, U.S. Printing Office, Washington, D.C. 20025.

4) Geiger, Glenn. 1986 Missouri Game Bird Directory. University of Missouri-Columbia, 1986.

5) Hardy, J.W. and C.A. McConnell. Bobwhite Quail: Propagation, Conditioning, and Habitit Management. Tennessee Game and Fish Commission, 1972.

6) Hart, Dennis and T.R. Mitchell. Quail and Pheasant Propagation. Washington, D.C.:Wildlife Management Institute, 73.

7) Jaycox, Elbert B. Beekeeping in the Midwest, Circular 1125, Cooperative Extension Service, University of Illinois at Urbana-Champaign, 1985.

8) Managing Gamebirds. Extension Bulletin E-692, Michigan State University: Cooperative Extension Service, 1970.

9) Mink Farming, Fur Farms Publishing Co., 1508 Howard Ave., Utica 3, NY.

10) Missouri Alternatives Center, Rt.1, Box 237, Clark, MO 65243. Phone: 1-800-433-3704. The center provides information on alternative farming enterprises. The center is sponsored by Missouri COOP, Missouri Department of Agriculture, Missouri Department of Conservation, Missouri Farm Magazine, University of Missouri College of Agriculture, and USDA Marketing Improvement Program.

11) Raising Bobwhite Quail for Commercial Use. Circular 514, Clemson University Extension Service, 1974.

12) Standard Guidelines For Operations of Mink Farms in the United States, Fur Farm Animal Welfare Coalition, LTD., 114 Metro Square Bldg., St. Paul, MN 55008.

13) Talley, Morris S. Rabbit Production and Management, Cooperative Extension Service, Lincoln University, 900 Moreau Drive, Jefferson City, MO 65101.

14) Tiemeier, Otto W. and Deyoe, Charles W. Channel Catfish Production in Kansas Farms for Profit and Pleasure, Bulletin 635, Kansas Agricultural Experiment Station, Kansas State University, Manhattan, KS 66506.

15) Travis, Hugh F. and Schaible, Phillip J. Fundamentals of Mink Farming, Department of Poultry Service, Michigan State University.

c. Audiovisual Materials

1) A Beginners Guide to Buying a House, (Cassette tape and filmstrip). Vocational Education Productions, California Polytechnic State University, San Luis Obispo, CA 93407, 1979.

2) Dairy Goat Management, (Cassette tape and filmstrip). Vocational Education Productions, California Polytechnic State University, San Luis Obispo, CA 93407, 1979.

3) Fish Farming, (Cassettes, slides - 42 frames). Media Implementation Center, 7701 1/2 Scott Hamilton Dr., Little Rock, AR 72209, 1982.

4) Modern Fish Farms, (Cassette tape and filmstrip). Vocational Education Productions, California Polytechnic State University, San Luis Obispo, CA 93407, 1979.

5) Small Animal Care: Rabbits, (Cassette tape and filmstrip). Vocational Education Productions, California Polytechnic State University, San Luis Obispo, CA 93407, 1979.

6) Small Animal Care: Dogs, (Cassette tape and filmstrip). Vocational Education Productions, California Polytechnic State University, San Luis Obispo, CA 93407, 1979.

7) The Business of Bees, (Cassette tape and filmstrip). Vocational Education Productions, California Polytechnic State University, San Luis Obispo, CA 93407, 1979.

INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION

MAJOR COMPETENCY PROFILE

Directions: Evaluate the student by checking the appropriate number or letter to indicate the degree of competency. The rating for each task should reflect employability readiness rather than the grades given in class.

Rating Scale:
3 **Mastered** - can work independently with no supervision
2 **Requires Supervision** - can perform job completely with limited supervision
1 **Not Mastered** - requires instruction and close supervision
N **No Exposure** - no experience or knowledge in this area

3	2	1	N	Introduction to Specialty Animal Production
				1. Identify possibilities for specialty animal production.
				2. Determine the profitability of selected specialty animal enterprises.
				3. Evaluate the comparative advantages (labor vs. capital) of the selected specialty animal enterprise.
				4. Identify local, state and federal regulations, as they apply to specialty animal production.
				5. Evaluate the marketing options available for specialty animals.
				Other: ____________________
				____________________

Introduction to Specialty Animal Production

CLASS/SECTION: ______________________________

STUDENTS:

	1. Identify possibilities for specialty animal production.	2. Determine the profitability of selected specialty animal enterprises.	3. Evaluate the comparative advantages (labor vs. capital) of the selected specialty animal enterprise.	4. Identify local, state and federal regulations as they apply to specialty animal production.	5. Evaluate the marketing options available for specialty animals.				

4. Identify local, state, and federal regulations, as they apply to specialty animal production.

5. Evaluate the marketing options available for specialty animals.

MOTIVATIONAL TECHNIQUE OR INTEREST APPROACH

1. Collect pictures from magazines, pamphlets, etc. of different types of specialty animals. Ask students to identify the animals pictured. Discuss with the class why these animals are called "specialty" animals. Have the class identify other animals that could be considered specialty animals. Discuss how specialty animal enterprises provide opportunities for SAE projects.

2. In order to provide students with a first hand look at a specialty animal operation, arrange a field trip to a local producer's operation. Have the owner describe their operation and the requirements for conducting a successful operation. If a local operator is not available, invite someone from a neighboring community to speak to the class.

3. Briefly discuss what is involved in operating a specialty animal enterprise. If available, use a record book from a previous class to point out the types of receipts and expenses recorded. Also discuss the labor requirements and marketing strategies.

EVALUATION

1. Give short, objective tests following each lesson and a more in-depth objective test at the conclusion of the unit.

2. Observe the changes in behavior as evidence of an improved ability of students to deal with problems in this unit using background information acquired from earlier units.

3. Observe students' attempts to solve similar problems in their supervised agricultural experience programs.

REFERENCES AND MATERIALS

1. Student Reference

   Introduction to Specialty Animal Production. (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.

2. Teacher References

   a. Books

      1) Belusz, Larry. Fish Farming Techniques. University of Missouri-Columbia: Instructional Materials Laboratory, 1987.

      2) Burnett, James J. J & J Game Birds. Personal and telephone interviews, January, 1989.

      3) Cheeke, Peter R.; Nephi M. Patton; George S. Templeton. Rabbit Production. Danville, IL: The Interstate Printers and Publishers, Inc., 1982.

      4) Ensminger, M.E.; R.O. Parker. Sheep and Goat Science (Animal Agriculture Series), 5th ed. Danville, IL: The Interstate Printers and Publishers, Inc., 1986.

5) Fish Farming: What You Should Know, Missouri Department of Conservation, Division of Fisheries, P. O. Box 180, Jefferson City, MO 65102.

6) Giammate, Victor M. Raising Small Game Animals. Danville, IL: The Interstate Printers and Publishers, Inc., 1976.

7) Gojmerac, Walter L. Bees - Beekeeping, Honey & Pollination. Westport, CT: AVI Publishing Co., Inc., 1980.

8) Hanson, Loise G.; Lily A. Davis. The Basic Beekeeping and Honeybook. NY: David McKay Co., Inc., 1977.

9) Lee, Jasper S. Commercial Catfish Farming. Danville, IL: The Interstate Printers & Publishers, Inc., 1973.

10) McGuire, Bernadette. Horse Health Primer. Cornell University, Ithaca, NY: Instructional Materials Service, College of Agriculture and Life Sciences.

11) Miniemeyer, Donald L. Agricultural Enterprise Budgets - Analysis, (Microcomputer program). Pennsylvania State University, Dept. of Agriculture and Extension Education, 13 Armsby Building, University Park, PA 16802.

12) Missouri Farm magazine, c/o Ridge Top Ranch, Route 1, Clark, MO 65243.

13) Missouri Farm Planning Handbook, (Manual 75), University of Missouri-Columbia: University Extension Division, 1986.

14) Morse, Roger A. The Complete Guide to Beekeeping-New, Revised Edition. NY: E.P. Dutton, 1980.

15) Mosesson, Gloria R.; Sheldon Scher. Breeding Laboratory Animals. NY: Sterling Publishing Co., Inc., 1968.

16) Raising Catfish for Food and Fun. Jefferson City, MO: Missouri Department of Conservation, 1983.

17) Rudolph, James A. Equine Management and Production. Stillwater, OK: State Department of Vocational and Technical Education, 1980.

18) Sandford, J.C.; F.G. Woodgate. The Domestic Rabbit, 3rd ed. NY: John Wiley and Sons, 1979.

19) Scheid, Dan W. Raising Game Birds (A Farmer's Digest Publication). Brookfield, WI: The Highsmith Company, 1970.

20) Tucker, C.S., ed. Channel Catfish Culture. Elsevier Science Publishers, 1985.

b. Brochures and Pamphlets

1) University Extension Agricultural Publications: University of Missouri-Columbia, 115 S. Fifth St., Columbia, MO 65211.

    a) Chambers, Glenn D.; Walter Russell. Techniques and Hazards of Raising Pheasants (MU Guide GO9525), 1978.

    b) Dillard, Joe G. and Barbara K. Bassett. Raising Catfish in Floating Cages.

UNIT - INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION

Lesson 1: Possibilities for Specialty Animal Production

Objective: The student will be able to identify the possibilities of specialty animal production as an agricultural enterprise.

Study Questions

1. **What are specialty animals?**
2. **What are some common specialty animal enterprises and their uses?**
3. **What factors should be considered when selecting a specialty animal as an agricultural enterprise?**
4. **What are some sources of information for specialty animal producers?**
5. **What specialty animal enterprises are appropriate in the local community?**

Reference

1. Introduction to Specialty Animal Production (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.

UNIT - INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION

Lesson 1: Possibilities for Specialty Animal Production

TEACHING PROCEDURES

A. Introduce the unit. Outline the lessons in the unit and discuss the competencies to be mastered. Students should complete all five lessons before starting a specialty animal enterprise of their own.

B. Motivation

Show students films, slides, books, or magazines concerning some aspects of raising specialty animals. In addition, allow students who have raised specialty animals to describe their experiences to the class.

C. Assignment

D. Supervised study

E. Discussion

1. With the students, develop a list of reasons for raising specialty animals. Try to include in the list a variety of the economic, social, and psychological reasons behind choosing to raise specialty animals.

What are specialty animals?

Specialty animals are creatures that have characteristics setting them apart from animals traditionally raised on the farm. They can be raised both for pleasure and for profit.

2. Bring to class some local and regional telephone books; have the students identify persons or businesses involved in providing treatment and supplies required for producing specialty animals. Discuss as a group the career opportunities for working with specialty animals.

What are some common specialty animal enterprises and their uses?

a) Bees
  1) Honey production
  2) Wax production
  3) Pollinating crops
b) Fish (tropical, catfish)
  1) Breeding
  2) Human consumption
  3) Bait
  4) Stocking ponds and lakes
c) Laboratory animals (mice, rats, guinea pigs)
  1) Pets
  2) Medical research facilities
  3) Veterinary schools
d) Rabbits
  1) Pets
  2) Meat
  3) Manure
  4) Pelts
  5) Breeding stock

        6) Laboratory stock
        7) Angora wool
    e) Fur animals (minks, foxes, raccoons)
        1) Pelts
        2) Training hunting dogs
    f) Companion animals (dogs, cats)
        1) Pets
        2) Breeding
        3) Service purposes
            (a) Seeing-eye dogs
            (b) Police dogs
            (c) Hunting dogs
            (d) Working dogs
    g) Goats
        1) Dairy
        2) Meat
        3) Angora mohair
    h) Horses
        1) Pets
        2) Breeding
        3) Draft and ranch work
        4) Pleasure
            (a) General riding
            (b) Showing
            (c) Jumping
            (d) Racing
    i) Game birds (pheasants, quail, partridges, turkeys)
        1) Hunting clubs
        2) Personal consumption
        3) Sales to others
    j) Miscellaneous
        1) Parrots, parakeets
        2) Fish baits (crawdads, crickets, earthworms)
        3) Exotic animals

3. Ask students to discuss aspects of raising specialty animals (such as investments of time, money, and space) that require particular consideration, whether the enterprise is for profit, for pleasure, or for a combination of both.

    What factors should be considered when selecting a specialty animal as an agricultural enterprise?

    a) Will the specialty animal enterprise supplement another farm enterprise, or will it be the only enterprise?
    b) How much money will be needed to start the enterprise?
    c) How much money will be needed to operate the enterprise?
    d) What facilities or equipment are needed?
    e) How much time will need to be devoted to the enterprise?
    f) How much space is required for the enterprise?
    g) What zoning laws and/or permits may be required for the enterprise?
    h) What is already known about the specialty animal enterprise?
    i) At what level of production should one start?
    j) What supplies and materials will be needed?

4. Ask students to name the specialty animal in which they have the greatest interest. Help students outline in letter form the general information they would request from an organization, business, or individual dealing with specialty animals.

    What are some sources of information for specialty animal producers?

- a) Cooperative Extension Service
    - 1) State and federal publications
    - 2) Extension agent
    - 3) Extension publications
- b) United States Department of Agriculture
    - 1) Publications
    - 2) Specialists
- c) Missouri Department of Conservation
- d) Agricultural Education
    - 1) State and federal departments of education
    - 2) State and national FFA
    - 3) Local, district, and state agricultural education instructors
- e) Pet stores
- f) Libraries
    - 1) Local
    - 2) Colleges/universities
    - 3) Interlibrary exchanges
- g) Specialty animal producers
- h) Manufacturers (feed, supplies, equipment)
- i) Associations
    - 1) Breed
    - 2) Industry

5. Discuss existing and potential local specialty animal enterprises. (Instructor will determine appropriate answers.) After animals are identified, assign students specific animals to research, report on, and discuss in class. Include the following points: breeding, maturity, and use of product.

What specialty animal enterprises are appropriate in the local community?

- a) Raising game birds for hunting clubs
- b) Supplying pet stores with animals
- c) Selling fresh fish at the farmer's market
- d) Boarding companion animals
- e) Producing fingerlings for stocking ponds
- f) Removing problem bee hives
- g) Producing fish for processing plants, local stores, or restaurants
- h) Selling rabbit manure to worm growers
- i) Raising pigeons for squab meat
- j) Boarding horses
- k) Renting bee hives to fruit or vegetable producers
- l) Operating a fishing-for-fee lake
- m) Selling goat milk or hair
- n) Herding cattle for ranchers
- o) Others

F. Other activities

1. Develop a list of potential SAE projects with specialty animals.

2. Invite a veterinarian to speak on the topic of caring for specialty animals.

3. Survey local markets for food products made from specialty animals.

4. Take slides of older students or other people in the community with a specialty animal enterprise. Have them answer basic questions on tape to go with slides.

G. Conclusion

Raising specialty animals as an alternative or in addition to raising traditional livestock presents opportunities for both pleasure and profit. Exploring the many possibilities of specialty animal production for profit is an important first step to take in considering the raising of specialty animals as an agricultural enterprise.

H. Competency

Identify the possibilities for specialty animal production.

I. Answers to Evaluation

1. d
2. c
3. e
4. Answers should include five of the following (and other applicable factors):

   -Will the enterprise supplement another farm enterprise, or be the only one?
   -Amount of time involved
   -Amount of money required for start-up (purchasing stock, facilities, etc.)
   -Amount of money required for continuing operation
   -Land/space needed
   -Supplies and materials needed
   -Equipment or facilities needed
   -Expertise necessary
   -Applicable zoning laws
   -Permits required
   -Appropriate production level for start-up

5. Answers should include five of the following (and other local enterprises which the instructor accepts as appropriate):

   -Raising game birds for hunting clubs
   -Supplying pet stores with animals
   -Selling fresh fish at the farmers' market
   -Boarding companion animals
   -Producing fingerlings for stocking ponds
   -Removing problem bee hives
   -Producing fish for processing plants, local stores, or restaurants
   -Raising rabbits for angora wool
   -Selling rabbit manure to worm growers
   -Raising pigeons for squab meat
   -Boarding horses
   -Renting bee hives to fruit or vegetable producers
   -Operating a fishing-for-fee lake
   -Selling goat milk or hair
   -Herding cattle for ranchers

6. The public library will lead to a variety of other sources that can be used to find specialty animal information.

UNIT - INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION Name ________________

Lesson 1: Possibilities for Specialty Animal Production Date ________________

EVALUATION

Circle the letter that corresponds to the best answer.

1. Specialty animals are creatures that have characteristics ______________ animals traditionally raised on the farm.

   a. Relating them to
   b. Making them identical to
   c. Unrelated to
   d. Setting them apart from

2. Which of the following is not considered a specialty animal?

   a. Dog
   b. Goat
   c. Sheep
   d. Horse
   e. All are specialty animals

3. Which of the following would not provide information about specialty animal production?

   a. Feed manufacturers
   b. Extension offices
   c. Pet stores
   d. Libraries
   e. Grocery stores

Complete the following short answer questions.

4. Raising specialty animals requires particular considerations. List five important factors to consider when selecting an enterprise to start.

   a.

   b.

   c.

   d.

   e.

5. List five possible agricultural enterprises for specialty animals.

   a.

   b.

   c.

   d.

   e.

6. Explain why the public library is a good source of general information concerning specialty animals.

UNIT - INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION

Lesson 2: Profitability of Specialty Animal Enterprises

Objective: The student will be able to identify the possibilities of specialty animal production for profit.

Study Questions

1. **What are sources of cost information for raising specialty animals?**
2. **What are the start-up costs for selected specialty animal enterprises?**
3. **What are the labor requirements and operating costs of selected specialty animal enterprises?**
4. **How is profit determined for specialty animal enterprises?**

References

1. Introduction To Specialty Animal Production (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Assignment Sheets

   a) AS 2.1: Start-up Costs
   b) AS 2.2: Operating Costs
   c) AS 2.3: Labor Requirements
   d) AS 2.4: Budget (Form 103)

Lesson 2: Profitability of Specialty Animal Enterprises

TEACHING PROCEDURES

A. Review

Review the previous lesson, discussing each of the specialty animals.

B. Motivation

One reason for raising specialty animals is to make a profit. In other units, the costs involved and profits expected from crop and livestock enterprises have been studied. Determining expenses is just as important before starting a specialty animal enterprise so the chances of making or losing money will be known. (Instructor, be sure to update costs periodically.)

C. Assignment

Students will use the completed Lesson 2 assignment sheets for Lesson 3.

D. Supervised study

E. Discussion

1. Develop with students a list of the different kinds of costs they would have for the various specialty animal enterprises. Then discuss different sources of information about such costs.

   What are sources of cost information for raising specialty animals?

   a) Breeding stock
      1) Commercial growers
      2) Breed association publications
      3) Newspaper or magazine classified advertisements
      4) County agricultural extension agents
      5) Telephone directories
   b) Housing and facilities
      1) Extension agent for plans
      2) Building materials suppliers
      3) Classified ads for used facilities
   c) Equipment
      1) Retail supply stores
      2) Catalogs
   d) Feed
      1) Feed dealers
      2) Production guides from agricultural extension or agricultural education
   e) Medication and health care
      1) Veterinarians
      2) Catalogs
      3) Retail supply or feed stores
   f) Labor
      1) Job services
      2) Newspaper employment section
      3) Other employers

- g) Marketing
  - 1) Other producers
  - 2) Buyers
  - 3) Transportation companies
  - 4) Marketing associations
- h) Permits or licenses
  - 1) City license department
  - 2) County license department
  - 3) Department of Conservation
- i) Utilities
  - 1) Utility companies
  - 2) Parents, employer
- j) Interest
  - 1) Local banks
  - 2) Production Credit Association
  - 3) Supplier
- k) Death loss
  - 1) (Based on) production guide projections
  - 2) Veterinarians
  - 3) Other producers
- l) Insurance - insurance agent
- m) Total enterprise costs
  - 1) Other producers
  - 2) County or state agricultural extension service
  - 3) Agricultural education instructors
  - 4) Related departments of agricultural college
  - 5) State or federal associations

2. With all specialty animal enterprises, an initial or start-up investment will be required. Discuss with students how the investment will vary according to the enterprise selected and its initial size.

What are the start-up costs for selected specialty animal enterprises?

- a) Bees (one hive)
  - 1) Two-deep hive body, $90-$130
  - 2) Three pound swarm of bees, $25-$40
  - 3) Equipment, $50-$60
    - (a) Tack hammer
    - (b) Hat and veil
    - (c) Hive tool
    - (d) Smoker
    - (e) Coveralls and gloves
    - (f) Bee brush
    - (g) Feeder
  - 4) Honey extractor, $25-$200
- b) Tropical fish (one tank)
  - 1) Starter fish, $0.30-$1.00 each
  - 2) Examples
    - (a) Serpaetetra
    - (b) Zebra danio
    - (c) Algae eater
    - (d) Black tetra
  - 3) Ten-gallon aquarium and equipment, $40-$60
    - (a) Filter
    - (b) Air pump and plastic hose
    - (c) Heater and thermometer

    - (d) Gravel
    - (e) Glass top
- c) Channel Catfish (one cage)
  - 1) Chemicals for removing unwanted fish, $20-$50
  - 2) Floating circular cage (one optional method)
    - (a) Purchased, $120-$150
    - (b) Home-constructed, $40-$60
  - 3) Fingerlings (300-400), $20-$40 per hundred
  - 4) Dip net, $10
  - 5) Aeration equipment (if needed), $80-several hundred
  - 6) Tank (200-300 gallon) for selling live fish, $90-$125
  - 7) Aerator for tank, $80-$85
- d) Dogs (female and one litter per year)
  - 1) Female, $50-$500 depending on breed
  - 2) Breeding stud fee, pick of litter or $50-$150 stud fee
  - 3) Dog house, $25-$50
  - 4) Confinement
    - (a) Chain, $5-$10
    - (b) Fence or kennel, $50-$250
  - 5) Feeding/watering equipment, $10
  - 6) Veterinary services, $30-$60
- e) Cats (male, female, and one litter per year)
  - 1) Female, $35-$150 depending on breed
  - 2) Male, $35-$150 depending on breed
  - 3) Sleeping box/house, $10-$40
  - 4) Pen, $10-$50
  - 5) Feeding/watering equipment, $10
  - 6) Veterinary services, $20-$30
- f) Fur Animals - Minks (male, female, and one litter per year)
  - 1) Breeding animals, $30-$200 depending on color and breed
  - 2) Cages or pens, $20-$150
  - 3) Shelter and nesting boxes, $10-$30
  - 4) Feeding/watering equipment, $10
  - 5) Knife, stretching boards, $10-$20
  - 6) Traveling/shipping crates, $15-$20
- g) Goats (doe and one kid)
  - 1) Breeding animals
    - (a) Doe, $120-$150
    - (b) Buck, $120-$150
  - 2) Fencing
    - (a) Collar and chain, $10-$20
    - (b) Pen, $50-$300
  - 3) Shelter, up to $1,000
  - 4) Health maintenance equipment, $50
  - 5) Feeding/watering equipment, $20-$80
  - 6) Milking stand/buckets, $20-$50
  - 7) Pasteurizer (dairy goats), $150
  - 8) Refrigerator for milk, $100-$250
- h) Horses (one)
  - 1) Mare
    - (a) Gentle, middle-aged, grade, $500-$1,000
    - (b) Registered, trained, $1,000 and up
  - 2) Tack
    - (a) Saddle, $100-$700
    - (b) Bridle and bit, $30-$100
    - (c) Halter and lead, $6-$30
    - (d) Grooming supplies (brush, hoof pick, comb), $1-$6 per item

i) Laboratory Animals
    1) Breeding Animals
        (a) Mice - 80 female, 20 male, $1-$2 per mouse
        (b) Rats - 45 female, 15 male, $4-$5 per rat
        (c) Guinea pigs - 30 female, 10 male, $5-$20 per pig
    2) Growing/nesting cages
        (a) Mice - 40 @ $50 each (commercial)
        (b) Rats - 45 @ $75 each (commercial)
        (c) Guinea pigs - 30 @ $125 each (commercial)
    3) Cages for holding during cleaning of regular cages; 10 for each species (metal preferred), varies
    4) Metal shelving, $50-$200 for 10

j) Rabbits
    1) Breeding animals
        (a) 2 does @ $8-$16 per doe
        (b) 1 buck, $10 and up
    2) Hutch (one per doe plus one per buck) $10-$50
    3) Feeding/watering equipment, $5-$10 per hutch
    4) Nest boxes, $1-$5 per doe

k) Game birds - pheasants (50 one-day-old chicks)
    1) Chicks, $1 each
    2) Brooder cage
        (a) Home-constructed or rectangular cardboard box, 3 1/2 ft. x 2 ft. x 2 ft., varies
        (b) Purchased, $90
    3) Thermometer, $3-$4
    4) Brooder light/heat lamp, $4
    5) Feeders, $9
    6) Waterers (2 one-gallon, drown-proof base), $5 each
    7) Hobby permit (up to 50 birds, no resale), $5
    8) Missouri Breeder's Permit (more than 50 birds, resale), $20
    9) Litter (pulp wood chips - not sawdust), $5 for 50 lbs.
    10) Vitamins, $2

l) Miscellaneous (check with local producers)

3. Discuss with students the amount of time/labor required for each specialty animal enterprise. With most of the enterprises, the time will be related to the number of basic production units a student establishes, as well as to the facilities and equipment involved. Usually, as the number of units increases, the labor required per unit decreases. Then discuss the operating costs for each specialty animal enterprise. Prices given are approximate and are subject to change.

What are the labor requirements and operating costs of selected specialty animal enterprises?

Labor Requirements

a) Bees (one hive)
    1) Construction of hive body - 10 hours
    2) Extraction, straining, and putting up of honey - 5 hours
    3) Checking hive - 15-30 minutes/week
    4) Moving hive, if required - 1-2 hours

b) Tropical Fish (one tank)
    1) Feeding and maintenance - 10-15 minutes/day
    2) Changing water - 1 hour/week

c) Channel Catfish (one cage)
    1) Cage construction - 2-5 hours

  - 2) Feeding and observation - 15 minutes/day
  - 3) Catching, varies
  - 4) Pond maintenance, varies
  - 5) Cleaning catfish - 12-15 per hour
- d) Dogs (one female, and pups weaned at 6-8 weeks)
  - 1) Feeding, watering, and care - 15-30 minutes/day
  - 2) Cleaning pens - 1-2 hours/week
  - 3) Visits to vet - 1 hour/2 times per year
- e) Cats (male, female, and kittens weaned at 6-8 weeks)
  - 1) Feeding, watering, and care - 15-30 minutes/day
  - 2) Cleaning litter box, etc., 15 minutes/3 times per week
  - 3) Visits to vet - 1 hour/2 times per year
- f) Fur Animals, Minks (male, female, 1 litter/yr - 4 weaned)
  - 1) Feeding and watering - 15-30 minutes/day
  - 2) Cleaning cage - 1-2 hours/week
  - 3) Cleaning nest boxes, changing bedding - 15-30 minutes/week
  - 4) Skinning/stretching - 1/2 to 1 hour each
- g) Goats (one doe and kid)
  - 1) Feeding, milking in morning and evening - 1 hour per doe per day
  - 2) Artificial insemination at breeding time - 1 hour per doe
  - 3) Deworming - 15 minutes/3 times per year
  - 4) Cleaning pen/changing bedding - 30 minutes/2 times per week
- h) Horses (one mare)
  - 1) Feeding - 15-30 minutes/day
  - 2) Grooming and cleaning - 15-30 minutes/day
  - 3) Cleaning stall/changing bedding - 30 minutes/day
  - 4) Training, varies
- i) Laboratory Animals (100 mice, 60 rats, or 40 guinea pigs)
  - 1) Feeding, observation, and care - 20 hours/week
- j) Rabbits (double hutch, 2 does)
  - 1) Feeding, observation, and care - 15 minutes/day
  - 2) Breeding - 15 minutes per doe
- k) Game birds, pheasants, (50 one-day-old chicks)
  - 1) Feeding, watering, and care - 30 minutes/day

Operating Costs

- a) Bees (one hive) - containers or bottles for honey, 1/2 or 1 pound - $0.15-$0.30 each
- b) Tropical Fish - one cage
  - 1) Fish food - $5-$10/year
  - 2) Water
  - 3) Filters (fiberglass or charcoal) - $1-$4
- c) Channel Catfish - one cage
  - 1) Nutritionally complete floating feed - $130-$150
  - 2) Selling on ice, varies
  - 3) Ice boxes or coolers, varies
- d) Dogs - female, and pups weaned at 6-8 weeks (1 litter)
  - 1) Feed, depending on size and breed - $100-$250
  - 2) Vaccinations - $25-$30
  - 3) Deworming, flea collar, etc. - $15
  - 4) Vitamins, etc., for pregnant female - $10
  - 5) Breeding fee - $50-$150 or pick of litter
  - 6) Feed for puppies - $3-$10 each
  - 7) Vaccinations for puppies - $15 each
- e) Cats - male, female, and kittens weaned at 6-8 weeks (1 litter)
  - 1) Feed - $60-$100

    2) Vaccinations - $20-$25
    3) Deworming, etc. - $5
    4) Cat box litter - $20-$40
    5) Feed, per kitten - $10-$30
    6) Vaccinations, per kitten - $10

f) Fur Animals (minks) - male, female, and one litter/year, 4 weaned
    1) Feed - $100-$120
    2) Dewormers, flea powder, etc. - $5-$10
    3) Bedding - $10-$30

g) Goats - one doe and kid
    1) Feed and minerals - $30-$60
    2) Artificial insemination - $20-$30
    3) Deworming, external parasite control - $3-$5
    4) Bedding - $10-$30
    5) Milk replacer for kid - $25
    6) Feed for kid - $10-$30
    7) Shearing - $3 each

h) Horses - one mare
    1) Home care
        (a) Grain/hay - $50/month
        (b) Bedding - $10/month
    2) Partial board - shelter and feed provided but student does feeding and stall cleaning - $50-$100/month
    3) Stall rentals - student provides feed, bedding, and labor for bedding and cleaning - $20-$75/month
    4) Full board - indoor arena, horse fed, and stall cleaned - $100-$250/month
    5) Hooves trimmed every 6-8 weeks - $70
    6) Shoes put on and cared for - $100
    7) Health care
        (a) Deworming at least twice - $30
        (b) Vaccinations - $30
        (c) Teeth care (floating) - $15
        (d) Vet visits, probably two per year - $40
    8) Stud fee - $50 and up

i) Laboratory Animals
    1) Feed
        (a) Mice, colony of 100 - $13/week
        (b) Rats, colony of 60 - $13/week
        (c) Guinea pigs, colony of 40 - $20/week
    2) Bedding or litter - $7/week

j) Rabbits - double hutch, 2 does and one buck (Figures given may vary slightly from those found in Manual 75.)
    1) Feed
        (a) Mature doe, 6 oz./day - $0.18/day
        (b) Buck, 3-6 oz./day - $0.10-$0.20/day
        (c) Doe and litter, 10-28 oz./day - $0.30-$0.80/day

k) Game birds - pheasants - 50 one-day-old chicks
    1) Feed - $18
    2) Feeders, 2 tube-type - $20 each
    3) Litter, grass hay/fescue (not straw), 4 bales - $2 each
    4) Flight cages, outdoor pens (unused buildings ok), varies
    5) Debeaker (optional) - $3
    6) Waterer (5 gallon, double-walled fountain) - $20
    7) Medicine - $3

4. Discuss with students how profit is determined for a specialty animal enterprise. Be sure they include all the costs associated with their enterprise, both start-up and operational. Use AS 2.1 through 2.4 for a sample enterprise.

   How is profit determined in a specialty animal enterprise?

   a) Receipts or income
      1) Gross receipts
      2) Income over variable costs
      3) Income over total costs = net income
         (a) Depreciation determined
         (b) All fixed costs included
   b) Budgets (use form AS 2.4)
      1) Receipts
      2) Expenditures-operating
      3) Expenditures-capital purchases (fixed costs)
      4) Month-end balances
   c) Performance measurements
      1) Return on total investment
      2) Return on equity
      3) Return on labor
      4) Feed per pound of gain

F. Other activities

1. Bring catalogs and have students determine the costs for items used in specialty animal enterprises, such as feed and equipment.

2. Display different sources of cost information, such as textbooks, magazines, brochures, and extension or conservation publications.

3. Invite someone in the community who raises specialty animals to discuss costs and labor required for their enterprise.

4. Have students interview local specialty animal producers, and share in class the information gained.

5. Have an older student with a specialty animal enterprise discuss the profits or losses made from that enterprise.

G. Conclusion

Specialty animals are often raised for profit. It is therefore necessary to research costs and become familiar with start-up, labor, and operating costs in order to be able to determine potential profits.

H. Competency

Determine the profitability of selected specialty animal enterprises.

I. Answers to Evaluation

1. d
2. d
3. e
4. a
5. c
6. e

7. b
8. c
9. b
10. a. The specific enterprise selected
    b. How large the enterprise is (how many animals)
    c. How much equipment there is and how automated it is
    d. Arrangement of the facilities
11. Start-up costs

J. Answers to assignment sheets

Answers will vary depending on the enterprise and current market conditions. The instructor will need to determine if students' responses are appropriate.

UNIT - INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION Name ________________

Lesson 2: Profitability of Specialty Animal Enterprises Date ________________

EVALUATION

Circle the letter that corresponds to the best answer.

1. The start-up costs for most specialty animal enterprises will ______________.

    a. Be about the same for all enterprises
    b. Be very high for all enterprises
    c. Be low for all enterprises
    d. Vary a lot between enterprises
    e. Be unimportant in choosing an enterprise

2. Start-up costs include ______________.

    a. Breeding stock
    b. Housing
    c. Feed
    d. a and b
    e. None of the above

3. Sources of information about cost and labor required for specialty animal enterprises are ______________.

    a. Producers of specialty animals
    b. Breed association publications
    c. Textbooks
    d. County extension agents
    e. All of the above

4. The one source from those listed in question 3 that will probably provide the most information is ______________.

    a. Producers of specialty animals
    b. Breed association publications
    c. Textbooks
    d. County extension agents
    e. All of the above

5. The best source of information about health care for specialty animals is a ______________.

    a. Feed/animal health product supplier
    b. Textbook or brochure
    c. Veterinarian
    d. Breed magazine
    e. Newspaper

6. The investment in equipment will depend upon:

   a. Specific animal enterprise
   b. What is already available at home
   c. Whether or not used equipment is available
   d. How large an enterprise is to be started
   e. All of the above

7. The most expensive operating cost for the majority of specialty animal enterprises is:

   a. Breeding stock
   b. Feed
   c. Utilities
   d. Medicine and health care
   e. Permits or licenses

8. In most cases it will be least expensive to ______________.

   a. Purchase pens from a commercial source
   b. Buy used pens from another producer
   c. Build pens
   d. Rent pens from a commercial source

9. Return on owner's investment is determined by:

   a. Dividing net income by total investment
   b. Dividing net income by owner's equity
   c. Dividing gross income by owner's equity
   d. Subtracting operating expenses from total revenue
   e. Subtracting total expenses from total revenue

Complete the following short answer questions.

10. Labor required for a specialty animal enterprise depends upon:

    a.

    b.

    c.

    d.

11. ______________ are not used in figuring net income from a specialty animal enterprise.

START-UP COSTS

AS 2.1

Enterprise: ______________________

Number Needed	Item	Unit Cost	Total Cost
	Breeding stock:		
	Females		
	Males		
	Shelter or confinement:		
	Equipment:		
	Veterinary services:		
	Other:		

TOTAL COSTS ____________

OPERATING COSTS

AS 2.2

Enterprise: ____________________

Number or Amount	Item	Unit Cost	Total Cost
	Food or Feed:		
____	____________________	________	________
____	____________________	________	________
____	____________________	________	________
____	____________________	________	________
	Health Care:		
____	____________________	________	________
____	____________________	________	________
____	____________________	________	________
	Services:		
____	____________________	________	________
____	____________________	________	________
____	____________________	________	________
	Other:		
____	____________________	________	________
____	____________________	________	________
____	____________________	________	________

TOTAL COSTS ____________

LABOR REQUIREMENTS

AS 2.3

Enterprise: ____________________

Starting Date: __________ Ending Date: __________ Total Length: __________

Item	Hours per day or week	Total Hours
Project set-up:		
____________________	__________	__________
____________________	__________	__________
Feeding	__________	__________
Cleaning and care	__________	__________
Marketing	__________	__________
Other:		
____________________	__________	__________
____________________	__________	__________
____________________	__________	__________

TOTAL HOURS ______________

FORM 103
BUDGET

RECEIPTS		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
OWNERSHIP														
	1.													
	2.													
	3.													
	4.													
	5.													
	6.													
	7.													
TOTAL OWNERSHIP RECEIPTS (lines 1 thru 7)	A.													
PLACEMENT														
	8.													
	9.													
	10.													
	11.													
Exchange of Labor	12.													
TOTAL PLACEMENT RECEIPTS (lines 8 thru 12)	B.													
TOTAL SOE RECEIPTS (lines A + B)	C.													
PERSONAL RECEIPTS														
	13.													
	14.													
	15.													
	16.													
TOTAL PERSONAL RECEIPTS (lines 13 thru 16)	D.													
Money Borrowed	17.													
TOTAL DOLLARS AVAILABLE (lines C + D + 17)	E.													

EXPENDITURES		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
OWNERSHIP														
	18.													
	19.													
	20.													
	21.													
	22.													
	23.													
	24.													
Capital Purchases	25.													
TOTAL OWNERSHIP EXPENSES (lines 18 thru 25)	F.													
PLACEMENT														
Wage Deductions	26.													
	27.													
	28.													
Travel or Mileage	29.													
Job Related Expenses	30.													
TOTAL PLACEMENT EXPENSES (lines 26 thru 30)	G.													
TOTAL SOE EXPENSES (lines F + G)	H.													
PERSONAL														
	31.													
	32.													
	33.													
	34.													
TOTAL PERSONAL EXPENSES (lines 31 thru 34)	I.													
Principal Payments	35.													
TOTAL DOLLARS USED (lines H + I + 35)	J.													
CASH DIFFERENCE FOR MONTH (lines E - J)	K.													
CASH BALANCE BEGIN. OF MONTH (line M, last month)*	L.													
CASH BALANCE END OF MONTH (line L + K)	M.													

*See directions for Cash Flow, number 4.

UNIT - INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION

Lesson 3: Comparative Economic Advantages of Selected Specialty Animal Enterprises

Objective: The student will be able to identify the comparative labor and capital advantages of selected specialty animal enterprises.

Study Questions

1. **How do costs of specialty animal enterprises compare?**
2. **How do labor requirements of specialty animal enterprises compare?**
3. **How are labor and cost information used to select a specialty animal enterprise?**

References

1. Introduction to Specialty Animal Production (Student Reference). University of Missouri-Columbia; Instructional Materials Laboratory, 1989.
2. Handouts
   - a) HO 3.1: Beginning Rabbit Budget - Low Investment
   - b) HO 3.2: Standard Rabbit Budget (100)
3. Assignment Sheets
   - a) AS 3.1: Enterprise Comparison Chart
   - b) AS 3.2: Beginning Budget Form

Lesson 3: Comparative Economic Advantages of Selected Specialty Animal Enterprises

TEACHING PROCEDURES

A. **Review**

Review the previous lesson. Discuss start-up and operating costs. Discuss completed Lesson 2 Assignment Sheets.

B. **Motivation**

Each specialty animal enterprise has economic advantages and disadvantages, which may differ for each student in the class and for students in different locations. Each student must decide which specialty animal enterprise will work best for him or her. The student then will want to compare enterprises, both on the labor and capital required to get started, and on the labor and capital required to operate the enterprise.

C. **Assignment**

D. **Supervised study**

E. **Discussion**

1. Review with students the different types of costs they will have in their enterprises. Then, for a selected number of enterprises, develop comparative work sheets. Students could use the 10- and 100-doe budgets (HOs 3.1 and 3.2) provided to complete AS 3.1.

How do costs of specialty animal enterprises compare?

- a) Types of Costs
  - 1) Fixed costs
  - 2) Variable costs
- b) Recognizing costs
  - 1) Explicit costs
  - 2) Implicit costs
- c) Start-up cost comparisons
  - 1) Animal purchases
    - (a) High cost ($150+)
      - (1) Horse
      - (2) Some dog breeds (per dog)
      - (3) Fur animals (one pair)
    - (b) Medium cost ($50-150)
      - (1) Catfish (per 100)
      - (2) Some dog breeds (per dog)
      - (3) Goat (1 doe)
      - (4) Laboratory animals (one colony)
      - (5) Game birds (per 50)
    - (c) Low cost (up to $50)
      - (1) Bees (one hive)
      - (2) Tropical fish (each)
      - (3) Rabbits (2 does, 1 buck)
      - (4) Some cat breeds (per cat)
      - (5) Laboratory animals (one pair)
    - (d) Factors affecting animal costs

            - (1) Breed
            - (2) Quality
            - (3) Number
            - (4) Size
    - 2) Facilities and Equipment
        - (a) High cost ($150+)
            - (1) Horse
            - (2) Fur animals
            - (3) Laboratory animals (one colony)
        - (b) Medium cost ($50-$150)
            - (1) Catfish
            - (2) Dogs
            - (3) Bees
            - (4) Goats
            - (5) Cats
            - (6) Game birds (50 birds)
        - (c) Low cost (up to $50)
            - (1) Tropical fish
            - (2) Laboratory animals (one pair)
            - (3) Rabbits
        - (d) Factors affecting cost of facilities and equipment
            - (1) Available facilities and materials
            - (2) Automation
            - (3) Animal requirements
            - (4) Time requirements
- d) Operating cost comparisons
    - 1) Feed
        - (a) High Cost ($150+)
            - (1) Horse
            - (2) Dogs
            - (3) Fur animals
            - (4) Catfish
            - (5) Laboratory animals (one colony)
        - (b) Medium cost ($50-$150)
            - (1) Goats
            - (2) Cats
            - (3) Game birds
        - (c) Low cost (up to $50)
            - (1) Bees
            - (2) Tropical fish
            - (3) Rabbits
            - (4) Laboratory animals (one pair)
        - (d) Factors affecting feed cost
            - (1) Size of animal and stage of growth
            - (2) Availability - special diets
            - (3) Preparation required
            - (4) Quantity - packaged or bulk
    - 2) Health care costs
        - (a) High cost - ($150+)
            - (1) Horse
        - (b) Medium cost ($50-$150)
            - (1) Dogs
            - (2) Cats
            - (3) Goats
        - (c) Low cost (up to $50)
            - (1) Bees
            - (2) Fish
            - (3) Fur animals
            - (4) Rabbits

        - (5) Laboratory animals (one colony)
        - (6) Game birds
      - (d) Factors affecting health care costs
        - (1) Veterinary services
        - (2) Routine vaccinations and treatments
        - (3) Amount of observation essential
    - 3) Marketing costs
      - (a) Distance
      - (b) Purchaser
  - e) Enterprise Comparisons
    - 1) Compare two different specialty animals
    - 2) Compare two sizes of same enterprise
    - 3) Compare same enterprise for two years

2. Discuss with students how they use their time, how much time they have available, and at what times during the year they have the most or least time. Then compare answers with the amount of time required for selected specialty animal enterprises.

How do labor requirements of specialty animal enterprises compare?

- a) Start-up labor required
  - 1) Locating breeding stock
  - 2) Cleaning - fixing up present facilities
  - 3) Building new facilities
  - 4) Expansion of project
- b) Operating labor required
  - 1) Feeding and watering
  - 2) Cleaning - daily care
  - 3) Breeding
  - 4) Birth - delivery
  - 5) Care of young - weaning
  - 6) Repair of equipment and facilities
- c) Marketing labor required
  - 1) Catching/preparing live
  - 2) Processing
  - 3) Delivery
- d) Available time
  - 1) Other enterprises
  - 2) Responsibilities to parents
  - 3) School activities
  - 4) Summer leisure activities
  - 5) Daily and weekly time log
- e) Labor Comparison
  - 1) Comparing two different enterprises
  - 2) Comparing two different sizes of the same enterprise
  - 3) Comparing one enterprise for two succeeding years

3. Ask students if they now have a better idea of the labor and capital required for the specialty animal enterprises discussed. Use the completed Lesson 2 assignment sheets along with the labor guidelines to select a specialty animal enterprise for students.

How are labor and cost information used to select a specialty animal enterprise?

- a) Comparison and selection based upon
  - 1) Start-up costs (capital investment)
  - 2) Operating costs
  - 3) Income over variable costs
  - 4) Labor requirements
  - 5) Return on investment

43

        6) Return on labor
    b) Labor considerations
        1) Maximize use of available time
        2) Maximize use of hired labor
        3) Match time available to time required
    c) Enterprise size selection considerations
        1) Facilities available
        2) Capital available for start-up
        3) Capital available for operating expenses
        4) Relationship to other enterprises or activities

F. Other activities

1. Using AS 3.1, Enterprise Comparison Chart, compare the costs for two specialty animal enterprises selected by students in the class. Divide the class into two groups, with one group assigned to each enterprise. They must develop an Enterprise Budget Form (AS 3.2) to get information for the Enterprise Comparison Chart (AS 3.2).

2. Make a similar comparison for labor requirements. Students may need to contact established specialty animal producers to get accurate labor estimates.

3. Have several people in the community with different specialty animal enterprises complete a budget for each enterprise. Then discuss them in class.

4. Have the students make a time log, and have them discuss which specialty animal enterprise their time would best fit.

G. Conclusion

It is important for students to be able to compare labor and capital requirements of various specialty animal enterprises, weighing advantages and disadvantages as they would apply to individuals. Students need to determine which enterprise would best suit their situations and needs.

H. Competency

Evaluate the comparative advantages (labor vs. capital) of the selected specialty animal enterprise.

I. Answers to Evaluation

1. a
2. c
3. c
4. d
5. d
6. e
7. d
8. d
9. d

J. Answers to Assignment Sheets

AS 3.1: The instructor will need to determine if students' responses are appropriate.

AS 3.2: The instructor will need to determine if students' responses are appropriate.

UNIT - INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION Name ____________________

Lesson 3: Comparative Advantages of Specialty Animal Enterprises Date ____________________

EVALUATION

Circle the letter that corresponds to the best answer.

1. Costs that must be paid in an enterprise that are not directly related to the level of production are called:
    a. Fixed costs
    b. Variable costs
    c. Explicit costs
    d. Implicit costs
    e. Total costs

2. Start-up costs would most likely be the highest for a _______________ enterprise.
    a. Catfish
    b. Rabbit
    c. Horse
    d. Dog
    e. Bee

3. Feed costs would most likely be the lowest for a _______________ enterprise.
    a. Goat
    b. Fur animal
    c. Rabbit
    d. Cat
    e. Catfish

4. Individuals would not expect to make a large investment in animals for a _______________ enterprise.
    a. Horse
    b. Fur animal
    c. Goat
    d. Bee
    e. Catfish

5. Which of the following is not considered a start-up labor activity?
    a. Locating breeding stock
    b. Building facilities
    c. Purchasing equipment
    d. Handling breeding activities
    e. Feeding animals

6. Labor requirements for a specialty animal enterprise will depend upon ______________.

   a. Number of animals raised
   b. Amount of automation used
   c. Kind of animal
   d. Both a and b
   e. a, b, and c

7. A budget will tell all of the following except ______________.

   a. Gross income or revenue expected
   b. Income after total costs
   c. Income after variable costs
   d. Efficiency of the operation
   e. Total costs

8. Budgets can be used to compare ______________.

   a. Two different specialty animal enterprises
   b. Two different sizes of the same enterprise
   c. One enterprise for two years
   d. All of the above
   e. None of the above

9. ______________ shows which enterprise best matches available labor.

   a. Enterprise Labor Comparison
   b. Enterprise Cost Comparison
   c. Enterprise Budget
   d. Labor Requirement Selection
   e. None of the above

HO 3.1

BEGINNING RABBIT BUDGET[1]
(10 DOES, 2 BUCKS)

ASSUMPTIONS: A desire to raise rabbits but no experience in raising them.
Market is available for live rabbits.
An existing building is available for rabbit hutches. (Rabbits can be successfully raised in hutches outside on a small scale.)
Expect 4 litters per doe per year, 6 bunnies weaned per litter, 4 pound selling weight of bunnies; 8% death loss of breeding stock per year plus 8% of does culled each year.
Four pounds feed required per pound of fryer sold (includes feed for doe and share of buck).
About 30 minutes labor spent for caring for rabbits, provided by operator.

			No. Animals x Selling Weight x Price per Pound	=	Total	MY FARM
1.	GROSS RECEIPTS:					
a.	Bunnies:	9 does x 4 litters x 6 weaned = 216. Save 2 for replacements annually.[2]	214 x 4# x $.55/lb.[2]	=	$470.80	
b.	Does: 1 sold		1 x 8# x $.20/lb.	=	1.60	
c.	Rabbit manure:	100#/doe including 4 litters/year	100# x 10 x $3/cwt. or $15/pickup load	=	30.00	
2.	TOTAL GROSS INCOME				$502.40	
3.	VARIABLE COSTS:					
a.	Feed:[3]	216 bunnies @ 4# = 864# meat x 4# feed/lb. meat = 3,456# feed needed	3,456# at $.11/lb. (50 lb. bags)	=	$380.16	
b.	Medication, drugs, hydrated lime, and miscellaneous expenses				50.00	
c.	Utilities in building, electricity, and water				20.00	
d.	Marketing (buyers pick up at farm)				--	
e.	Added nesting material at kindling				10.00	
			TOTAL CASH EXPENSES		$460.16	
f.	Interest on cash expenses[4]		$460.16 x 1/4 yr. x 11% =		12.65	
4.	TOTAL VARIABLE COSTS				$472.81	
5.	INCOME OVER VARIABLE COSTS[5]				$ 27.28	

---

[1] Adapted from The Missouri Farm Planning Handbook (Manual 75).

[2] Live weight. Some small producers are receiving 55 to 60 cents per pound.

[3] If additional rabbits (above 16%) are kept for replacements, it may take 5 to 6 pounds of feed per pound bunny sold.

[4] Interest charge is computed at 11% annual rate on 25% of lines 3-7.

[5] Income to pay labor, management, and capital investment costs.

CAPITAL INVESTMENT:

Breeding stock, 10 does and 2 bucks @ $10 ea.	$120.00
Individual wire hutches, 30" x 36" x 18", 12 @ $12 ea.	144.00
Individual metal feeders, 12 @ $2 ea.	24.00
Individual waterers, 12 @ $2 ea.	24.00
Nest boxes (for kindling), 8 @ $1 ea.	8.00
Extra insulation and used 20"-24" electric fan	50.00
TOTAL	$370.00

OBSERVATIONS:

Expected income per year over variable costs of $27.28 for 10 does and 2 bucks represents a 7.3% return on capital invested in the example. Income is not sufficient to service a loan for $370 capital investment. If money were available from other sources for cash expenses, then interest charge could be eliminated. Extra utilities may also be reduced. So, it's possible some persons may realize $50-$60 income above variable costs from 10 does having 4 litters each year and weaning 6 bunnies per litter. Investments must be kept low if the project is expected to be profitable.

Some producers are obtaining 5 litters per doe per year with 8 bunnies weaned per litter which could result in $60 income over variable costs from 10 days. Added feed needed and other cash costs in the example are included.

HO 3.2

STANDARD RABBIT BUDGET[1]
(100 DOES, 8 BUCKS)

ASSUMPTIONS:

-Manager has some experience in raising rabbits.

-A market is available for live rabbits.

-An existing shed is available for rabbit hutches, but some remodeling will be needed.

-Expected 4.5 litters per doe per year; 6 bunnies weaned per litter; 8% breeding stock death loss; 8% of does and bucks culled each year.

-Estimate 1.5 hours labor daily for 365 days to care for rabbits, or 550 hours annually, provided by operator.

			No. Animals x Selling Weight x Price per Pound	= Total	MY FARM
1.	GROSS RECEIPTS:				
	a.	Bunnies:100 does x 4.5 litters x 6 weaned = 2,700. Save 20 for replacements annually.[2]	2,680 x 4# x $.58/lb.	$6,218	
	b.	Does: 10 sold	10 x 8# x $.18/lb.	14	
	c.	Rabbit manure: 100#/doe/year	100 cwt. x $3/cwt.	300	
2.	TOTAL GROSS INCOME			$6,532	
3.	VARIABLE COSTS:		# feed needed x Price per pound		
	a.	Feed: 2,700 bunnies @ 4# = 10,800# meat x 4# feed/lb. meat = 43,200#	43,200# x 10.5 cents =	$4,536	
	b.	Medication, drugs, etc.		60	
	c.	Utilities		100	
	d.	Marketing (buyers pick up at farm)		--	
	e.	Miscellaneous		50	
			TOTAL CASH EXPENSES	$4,746	
	f.	Interest on cash expenses[3]	$4,746 x 1/4 yr. x 11%	130	
4.	TOTAL VARIABLE COSTS			$4,876	
5.	INCOME OVER VARIABLE COSTS[4]			$1,656	

---

[1] Adapted from The Missouri Farm Planning Handbook (Manual 75).

[2] Assume 8% breeding stock death loss occurs before kindling and 8% culled.

[3] Interest charge is computed at 11% annual rate on 25% of lines 3-7.

[4] Income to pay labor, management, and capital investment costs.

CAPITAL INVESTMENT:

100 does + 8 bucks @ $7 ea.	$1,080
110 wire hutches, 30" x 36" x 18" @ $10 ea.	1,320
110 individual feeders @ $2 ea.	220
Automatic watering system, individual valve for each hutch	320
Nest boxes for kindling, 100 @ $1 ea.	100
Insulation, wiring, and electric fan	250
TOTAL	$3,290

OBSERVATIONS: This level of income could pay for the investment in two years at 13% interest charge. Capital expense, spread over four years, would reduce income $810, giving a net income of $846. But, before making this kind of investment, it is essential that a dependable market outlet for bunnies can be obtained.

ENTERPRISE COMPARISON CHART

Enterprise (1)	Labor Income[1] Per Unit (2)	Hours[2] Per Unit (3)	Capital[3] Per Unit (4)	Requirements to Make $1,000[4]			
				No. Units Required (5) ($1,000 ÷ Col 2)	Hours Required (6) (Col 5 x Col 3)	Capital Required (7) (Col 5 x Col 4)	Other: space, feeders, buildings, etc.

[1] Develop this using budget (Form 103) and Manual 75 - Farm Planning Handbook. [2] Secure from Manual 75. [3] Average inventory plus average operating investment = capital per unit. [4] Change to figure that is a typical goal for class members.

BEGINNING BUDGET FORM

AS 3.2

Enterprise: ______________________________

Size: ______________________________

Labor Required: ______________________________

---

1. GROSS RECEIPTS:
   a. Market Animals
      ________ (number) x $ ________ (sales price each) = $ ________ (total)
   b. Breeding Stock
      ________ (number) x $ ________ (sales price each) = $ ________ (total)
   c. Other
      ________ (amount) x $ ________ (sales price each) = $ ________ (total)

---

2. TOTAL GROSS INCOME $ ____________

---

3. VARIABLE COSTS:

a.	Feed: ______________	$ ________
b.	Medication, drugs, hydrated lime, and misc. expenses	$ ________
c.	Utilities in building, electricity, and water	$ ________
d.	Marketing	$ ________
e	Other ________________________	$ ________
f.	Interest on cash expenses	$ ________

---

4. TOTAL VARIABLE COSTS $ ____________

---

5. INCOME OVER VARIABLE COSTS[1] $ ____________

---

[1] Income to pay labor, management, and capital investment costs.

Lesson 4: Regulations Concerning Specialty Animal Production

Objective: The student will be able to identify regulations and information resources pertaining to specialty animal enterprises.

Study Questions

1. **Why are specialty animal enterprises regulated?**
2. **What are the types of specialty animal enterprise activities requiring regulations?**
3. **What are information sources for regulations concerning specialty animal production?**

References

1. Introduction to Specialty Animal Production (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Assignment Sheet
   a) AS 4.1: Regulations Checklist

UNIT - INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION

Lesson 4: Regulations Concerning Specialty Animal Production

TEACHING PROCEDURES

A. Review

Review the previous lesson. List the various specialty animals and compare the possible enterprises.

B. Motivation

Raising animals for profit, especially in urban areas, has many different aspects that must be considered. No one wants to start an enterprise and then be forced to quit or face a fine or penalty because of some unanticipated law or regulation. The legal aspects of production must be considered. Be aware of the different laws and regulations affecting specialty animal production.

C. Assignment

D. Supervised study

E. Discussion

1. Ask students if they know of any laws or regulations that affect the raising of specialty animals. Then discuss why it is necessary to have such regulations. List reasons on the board and add ones that they miss.

Why are specialty animal enterprises regulated?

a) Protect wildlife
    1) Catfish
    2) Fur animals
    3) Game birds
    4) Exotic animals
b) Prevent spread of disease
    1) Vaccinations
    2) Shipping permits
    3) Health certificates - shows
c) Protect property rights of others
    1) Appearance
    2) Noise
    3) Smell
    4) Damage
d) Personal protection
    1) Fire
    2) Injury - dogs
    3) Health/sanitation
        (a) Disease
        (b) Food poisoning
        (c) Drug carryover
e) Humane treatment of animals
    1) Space required
    2) Shelter
    3) Treatment
    4) Processing

f) Animal Welfare Act
  1) Animals affected
    (a) Research or experimental
    (b) Exhibition
    (c) Sale as pets
  2) Standards set for:
    (a) Housing
    (b) Handling and care
    (c) Sale
    (d) Transportation
  3) Regulations
    (a) Licenses
    (b) Records
    (c) Fines and imprisonment
g) Maintain Quality or Purity
  1) Breed registration
  2) Color, appearance
  3) Malformations, other defects

2. List various activities that are common to most specialty animal enterprises, such as housing, location, purchasing, selling, processing, or transporting. Then discuss the regulations that may affect each activity.

What are the types of specialty animal enterprise activities requiring regulations?

a) Housing
  1) Building permits
    (a) Plan
    (b) Materials
    (c) Electrical permit
    (d) Plumbing permit
  2) Space requirements
    (a) Pen or cage sizes
    (b) Number of animals
  3) Ponds for fish
    (a) Impoundment of water
    (b) Release of water
    (c) Pumping from wells or rivers
    (d) Chemicals for removing unwanted fish
b) Location
  1) Zoning regulations
    (a) Land zones or classes
    (b) Rezoning
  2) Containment
    (a) Owner's legal liabilities
    (b) Fencing, pens, or restraining chains
c) Purchasing animals
  1) Wildlife
  2) Other specialty animals
d) Transporting animals
  1) Container
  2) Time involved
  3) Feeding and care
  4) Airlines
  5) Health certificates
  6) Dealer's licenses
e) Selling and processing animals
  1) Business or dealer's permit
  2) Health care

        3) Specialty animal products for consumption
        4) Liability for injuries

3. Ask the class to list various governmental agencies that they know about. Then go through the list to determine agencies that may regulate specialty animal enterprises. Add any that are overlooked. (Use AS 4.1.)

   What are information sources for regulations concerning specialty animal production?

   a) Local
      1) Other producers
      2) County extension
      3) Agriculture instructor
      4) City hall
         (a) Zoning
         (b) Building permits
         (c) Animal control
      5) County courthouse
         (a) Zoning
         (b) Health Department
   b) State
      1) State Department of Agriculture
      2) State Department of Conservation
      3) State Department of Health
      4) Cooperative Extension Service
      5) Private sources
         (a) Breed associations
         (b) State producer associations
   c) Federal - National
      1) USDA
      2) National breed associations
      3) National or regional producers' association

F. Other activities

1. Have someone from the State Department of Agriculture or State Department of Conservation discuss regulations from their agencies relating to specialty animal production.

2. Get copies of city or county regulations relating to specialty animal enterprises. Ask a city/county employee to discuss such things as zoning and public health requirements.

3. Have a dealer or wholesaler of specialty animals discuss the special regulations relating to the transportation and sale of specialty animals.

4. Visit a processing plant for specialty animal products such as fish or rabbits. Discuss the sanitation and other requirements relating to growing such animals for food.

5. Get copies of telephone directories. Include one from a major metropolitan area so that federal, state, county, and city agencies are listed. Have the class go through the directory and identify agencies that might have regulations governing specific specialty animal enterprises.

G. Conclusion

Laws and regulations affecting specialty animal enterprises are important, and must be taken into consideration by anyone planning such production.

H. Competency

Identify local, state, and federal regulations as they apply to specialty animal production.

I. Answers to Evaluation

1. e
2. b
3. c
4. d
5. b
6. e
7. a
8. b
9. c
10. a

UNIT - INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION Name ____________________

Lesson 4: Regulations Concerning Specialty Animal Production Date ____________________

EVALUATION

Circle the letter that corresponds to the best answer.

1. In Missouri, commercial catfish farmers must:

    a. Purchase a permit
    b. Purchase fish from Department of Conservation
    c. Purchase fish from a commercial fish farmer
    d. Keep the bill of sale as proof of purchase
    e. Both c and d

2. Regulations are established for all of the following reasons except:

    a. Control or prevent diseases
    b. Restrict number of producers
    c. Protect property rights of others
    d. Protect native wildlife
    e. Provide humane treatment to animals

3. The ______________ may have regulations relating to the packaging of food products for human consumption.

    a. Department of Agriculture
    b. Department of Conservation
    c. Department of Health
    d. Department of Food Science
    e. Department of Horticulture

4. Before people can operate a specialty animal enterprise in some areas of the city or county, they may need to get a ______________.

    a. Zoning change
    b. Business permit
    c. Public easement
    d. A and b
    e. A, b, and c

5. The ______________ sets standards by law regarding the housing, transportation, treatment, and sale of animals.

    a. USDA
    b. Animal Welfare Act
    c. Department of Conservation
    d. Animal Inspection Act
    e. State veterinarian

6. Which of the following activities may require regulations for specialty animal production?

   a. Housing
   b. Location
   c. Purchasing
   d. Sale
   e. All of the above

7. Which level of regulations has the most power or control?

   a. Federal
   b. State
   c. County
   d. City
   e. Local

Match the following.

Level		Related Agency
___ 8. State	a.	County zoning board
___ 9. Federal	b.	Department of Conservation
___ 10. Local	c.	USDA

REGULATIONS CHECKLIST

AS 4.1

Specialty Animal Enterprise: ______________________________

I. Local Regulations (City or County)

1) ____

2) ____

3) ____

(check) ____ can meet ____ cannot meet

II. State Regulations

1)____

2)____

3)____

(check) ____ can meet ____ cannot meet

III. Federal Regulations

1) ____

2) ____

3) ____

(check) ____ can meet ____ cannot meet

IV. Changes required to meet regulations

____

____

____

V. Costs involved to meet regulations

____

____

60

Lesson 5: Marketing Options for Specialty Animals

Objective: The student will be able to recognize marketing options and practices involving specialty animal enterprises.

Study Questions

1. **What marketing options are available to the specialty animal producer?**
2. **What are the available markets for selected specialty animals?**
3. **How do markets for selected specialty animal enterprises compare?**

References

1. Introduction to Specialty Animal Production (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1989.
2. Assignment Sheet
    - a) AS 5.1: Market Comparison

Lesson 5: Marketing Options for Specialty Animals

TEACHING PROCEDURES

A. Review

Review the previous lesson. List the four levels of regulations and the ways in which they can affect specialty animal enterprises.

B. Motivation

Specialty animal enterprises involve much work, so producers want to get the most out of them. To do so, products must be marketed or sold at a good price. Markets for specialty animal enterprises are harder to identify, so sometimes producers need to develop their own markets.

C. Assignment

D. Supervised study

E. Discussion

1. Have the students list the ways conventional agricultural products are marketed. Then discuss each as to how it would apply to specific specialty animal enterprises. Add any marketing options that the students overlook.

What marketing options are available to the specialty animal producer?

a) Raising grade animals
    1) Lower initial capital needed
    2) Reputation not established
    3) Less time per animal
b) Raising purebred animals
    1) More potential income
    2) More expensive to raise
    3) More time per animal
    4) Accurate records necessary
c) Selling services
    1) Training
    2) Care facilities
    3) Breeding
    4) Processing
d) Selling direct
    1) More potential profit
    2) More service or processing
    3) More time - smaller sales
e) Selling to dealers or processors
    1) More stable market
    2) Fewer marketing costs
f) Developing a market
    1) Steady supply
    2) Adequate quantity
    3) Maintaining quality
    4) Advertising and promotion
    5) Delivery

        5) Delivery
        6) Joining others

2. Discuss the different markets for agricultural products raised in the community. Then ask students what markets are available for specialty animal enterprises. List those they miss.

   What are the available markets for selected specialty animals?

   a) Local
      1) Home consumption
      2) Farmer's markets
      3) Off the farm
      4) Roadside stands
      5) Local merchants
   b) Buyers or dealers
      1) Local
      2) Within state
      3) Out-of-state
   c) Grower organizations
   d) Wildlife
   e) Auctions
   f) Other producers
   g) Direct to processors

3. The various markets available to specialty animal producers have been discussed. Now discuss what factors should be compared when selecting a market for the specialty animal to be produced. (Use AS 5.1.)

   How do markets for selected specialty animal enterprises compare?

   a) Comparison factors
      1) Price
      2) Distance
      3) Quantity required
      4) Size
      5) Delivery schedules
      6) Quality
      7) Labor
   b) Local
      1) Smaller quantities
      2) Limited demand
      3) More potential income
   c) Dealers
      1) More constant demand
      2) May have quantity requirements
      3) May pay premiums
   d) Grower organizations
      1) Better prices
      2) Contract with dealers, processors
      3) Return savings
   e) Auctions
      1) More risky
      2) Price varies
      3) Reputation important
   f) Processors

F. Other activities

1. Visit a processing plant for specialty animals if one is located in the community.

2. Invite a dealer or buyer of specialty animals to visit the class and discuss what he looks for and the different options for sales.

3. Have a student with a specialty animal enterprise such as catfish or rabbits demonstrate how to prepare an animal for dressed market.

4. Have a student or person in the community who raises registered animals discuss production and how marketing differs from grade animal production.

G. Conclusion

In order to have a successful specialty animal enterprise, it is necessary to sell the animals or products at a price that will allow the producer to make a profit and a return on the labor and investment. There are a number of markets and marketing options for specialty animal enterprises. It is important to check them before an enterprise is started.

H. Competency

Evaluate the marketing options available for specialty animals.

I. Answers to Evaluation

1. b
2. a
3. e
4. e
5. d
6. b
7. e
8. c
9. b

UNIT - INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION Name ____________________

Lesson 5: Marketing Options for Specialty Animals Date ____________________

EVALUATION

Circle the letter that corresponds to the best answer.

1. Raising registered animals instead of grade animals offers what advantages?
    a. Lower capital needed to start
    b. Potential for more income or profit
    c. Takes less time per animal
    d. Takes fewer records
    e. Less expense per animal

2. Breeding skills and accurate records are more important for ______________.
    a. Raising registered animals to sell for breeding purposes
    b. Raising animals for market for food
    c. Raising animals to market pelts or honey
    d. Raising fingerlings for sale to fish growers
    e. Raising animals for work purposes

3. Which of the following are services that can offer income to a specialty animal producer?
    a. Providing care for others' animals
    b. Training
    c. Stud service
    d. Processing animals
    e. All of the above

4. Which of the following marketing options is best when large numbers of a specialty animal are produced?
    a. Selling to a local market
    b. Selling to a dealer
    c. Selling to a processor
    d. No difference between a, b, or c
    e. B or c

5. Which of the following is not an advantage of selling through a dealer?
    a. Can handle larger numbers
    b. Has a wider marketing territory
    c. May have delivery equipment
    d. Requires large numbers of animals
    e. Provides a more consistent market

6. Which of the following return savings made on sales back to their members who market animals through them?

   a. Processors
   b. Cooperative marketing associations
   c. Retail buyers
   d. Dealers
   e. Auction companies

7. When comparing different markets, be sure to consider ______________.

   a. Price and premiums or discounts
   b. Distance
   c. Quantity required
   d. Labor involved
   e. All of the above

8. With a(n) ______________, the price received for animals often varies.

   a. Local retailer
   b. Dealer
   c. Auction
   d. Grower organization
   e. Processor

9. To obtain the lowest labor costs, the owner should ______________.

   a. Sell the animals processed and ready to eat
   b. Have customers pick the live animals up at the farm
   c. Deliver the animals to a processor
   d. Train the animals thoroughly before marketing
   e. Sell animals at roadside markets

MARKET COMPARISION

Enterprise: ______________________

MARKETING FACTOR	MARKET OPTION 1 ______________	MARKET OPTION 2 ______________	MARKET OPTION 3 ______________
Price			
Distance			
Quantity Required			
Size			
Quality			
Delivery			
Labor			

AS 5.1

MISSOURI AGRICULTURAL EDUCATION

10-4790-S

Introduction to Specialty Animal Production Unit

For
Agricultural Science I
Core Curriculum

Student Reference

IMI

In cooperation with
Agricultural Education
Department of Practical Arts
and Vocational-Technical Education
College of Education and College of Agriculture
University of Missouri-Columbia

In cooperation with
Agricultural Education Section
Division of Vocational and Adult Education
Department of Elementary and
Secondary Education
Jefferson City, Missouri

The activity which is the subject of this report was supported in whole or in part by funds from the Department of Elementary and Secondary Education, Division of Vocational and Adult Education. However, the opinions expressed herein do not necessarily reflect the position or policies of the Missouri Department of Elementary and Secondary Education or the Division of Vocational and Adult Education, and no official endorsement should be inferred.

Student Reference

INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION

Writer:
Bob Schwindt
Instructional Materials Laboratory
University of Missouri-Columbia

Consulting Editor:
Bob Stewart
Agricultural Education
University of Missouri-Columbia

Veronica Feilner, Editor
Instructional Materials Laboratory
University of Missouri-Columbia
10 London Hall
Columbia, Missouri 65211

Volume 21
Number 7

Catalog Number 10-4790-S
June 1989

ACKNOWLEDGEMENTS

Recognition is given to advisory committee members for providing their valuable time and suggestions in developing this unit. The committee consisted of Dee Cee Frieling, Charles Foreman, Doug Funk, Kevin Gnuschke, Terry Heiman, Gail Hodges, Paul Light, Delbert Lund, Max Miller, and Morris Talley.

Special recognition is given to Joe Timko and Ann Mitchell for their input in the development of sections of this curriculum.

Appreciation is expressed to the following staff members of the Instructional Materials Laboratory for their efforts in producing this material: Harley Schlichting, Director; Amon Herd, Associate Director; Phyllis Miller, Assistant Director; Dan Stapleton, Assistant Director; Christen Heitkamp and Lori Holliday, Word Processors; and Karen Omer, Clerical Student Assistant.

Veronica Feilner, Editor/Project Coordinator
Instructional Materials Laboratory
University of Missouri-Columbia

Bob Stewart, Professor and Coordinator
Agricultural Education
University of Missouri-Columbia

FOREWORD

This reference, Introduction to Specialty Animal Production, is designed to accompany the lessons outlined in the instructor's guide in the Agricultural Science I curriculum. The development of this guide is the result of suggestions by the MVATA Teaching Aids Committee. The Introduction to Specialty Animal Production Advisory Committee suggested the topics to be discussed and reviewed the materials.

This reference is intended to be an introduction to many of the specialty animal enterprises available in the field of agriculture. The five lessons discuss possibilities for specialty animal production, profitability, economic advantages, regulations, and marketing options for specialty animals. It will also be of value to those seeking a basic understanding of specialty animal production. Persons using this reference on an individual basis may wish to secure a copy of the instructor's guide for additional materials on specialty animal production.

Bob R. Stewart, Professor and Coordinator
Agricultural Education
University of Missouri-Columbia

Terry Heiman, Director
Agricultural Education
Department of Elementary and
Secondary Education

INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ii

FOREWORD iii

Lesson 1--Possibilities for Specialty Animal Production 1
- Specialty Animals
- Common Specialty Animal Enterprises
- Specialty Animal Enterprise Selection Factors
- Sources of Information on Specialty Animals
- Specific Information on Specialty Animals and Enterprises
- Potential Enterprises in the Community
- Summary

Lesson 2--Profitability of Specialty Animal Enterprises 13
- Sources of Cost Information
- Start-up Costs
- Labor Requirements and Operating Costs
- Ways of Measuring Profit
- Summary

Lesson 3--Comparative Economic Advantages of Selected Specialty Animal Enterprises 25
- Comparative Costs of Specialty Animal Enterprises
- Labor Required for Various Specialty Animal Enterprises
- Use of Cost and Labor Information to Select an Enterprise
- Summary

Lesson 4--Regulations Concerning Specialty Animal Production 35
- Reasons for Regulating Specialty Animal Enterprises
- Specialty Animal Enterprise Activities Requiring Regulations
- Sources of Information about Regulations
- Summary

Lesson 5--Marketing Options for Specialty Animals 41
- Marketing Options
- Markets for Specialty Animals
- Comparing Markets
- Summary

UNIT - INTRODUCTION TO SPECIALTY ANIMAL PRODUCTION

Lesson 1:
Possibilities for Specialty Animal Production

Specialty Animals

The term "specialty animals" covers a diverse group of insects, fish, rodents, lagomorphs (rabbits), birds, and mammals such as cats, dogs, goats, and horses. Because of such great diversity, any attempt at defining the term must use the word "creatures" to safely cover the wide range of members within the group.

Specialty animals are creatures that have characteristics setting them apart from animals traditionally raised on the farm. The characteristics include size, shape, means of locomotion, and medium (air or water) required to support life, as well as methods of production and strategies used in marketing. In fact, it is necessary that those starting out in specialty animal production take into account the many unique characteristics of specialty animals in selecting an "animal" either as a pet or as the basis of an alternative agricultural enterprise.

Specialty animals may be raised both for pleasure and for profit. Particular specialty animals may require only shelter and daily feeding in one small corner of the yard, the affection and care of members of the family in exchange for faithful companionship and protection of both home and property, and water of the proper temperature and oxygen content to ensure maximum feed conversion. In contrast, a multimillion dollar facility may be necessary so that animals can meet the rigid standards of scientific research.

Common Specialty Animal Enterprises

Table 1.1 outlines common specialty animals raised in Missouri and the enterprises associated with such specialty animals. As the enterprises for each specialty animal are reviewed, think about how each might be possible locally. Are there special characteristics in the community which would make it easier to set up and operate one of the enterprises? Are there things that would make it very hard or impossible to operate a particular enterprise? Then, for each of the specialty animals listed, would there be any additional enterprises possible?

Specialty Animal Enterprise Selection Factors

As in other major farming enterprises, such as swine or soybeans, a basic understanding of a particular animal is necessary before deciding to raise that animal. Facilities, supplies, and equipment needed to raise the animal must be known, as well as the time required to operate the enterprise.

In many cases where specialty animal enterprises are under consideration, it is best to work for an established producer through at least one production cycle before making a decision. It not only gives experience, but also lets potential owners know if they would like working with a particular animal.

The specialty animal enterprises discussed in the unit are very diverse, or different. They differ in the space required, the amount of time required, and the amount of money needed to get started.

Unlike traditional crop and livestock enterprises, some specialty animal enterprises are not limited to a farm. Some, such as tropical fish, can be raised in a basement. Others, such as mice or rats for laboratory use, can be raised in an unused garage or storage building.

Some specialty animal enterprises can make use of unused land or facilities on a farm. A woody piece of "wasteland" may work for raising goats. An old chicken house can be converted into pens for raising fur animals, rabbits, or dogs. A pond may be ideal for raising caged catfish.

Specialty animal enterprises such as bee-keeping may be used to supplement other farm enterprises in order to bring in more money. In other situations, a person may want to concentrate on one specialty animal enterprise.

Some specialty animal enterprises require only a small amount of time each day, while others, such as milking goats, require several hours every day. Some may require a lot of time at certain stages in their production and very little labor the rest of the time.

One must also decide at what level to begin. It is possible to start with a small number of animals, keep the young for breeding stock, and build the number that way. However, there will not be many animals for sale or income during the building period. Another option is to purchase the number

75

TABLE 1.1: Specialty Animal Enterprises

SPECIALTY ANIMAL	ENTERPRISE(S)
Bees	Honey production Wax production Pollinating crops
Fish	
Tropical fish	Small-scale breeding
Channel catfish	Cage production Open pond production
Baitfish	Supplying fishermen
Laboratory animals (mice, rats, guinea pigs)	Pets Supply research facilities
Rabbits	Pets Meat production Manure Pelts Breeding stock Laboratory stock Angora wool
Fur animals (minks, foxes, raccoons)	Pelts Service - for training dogs
Companion animals	
Dogs	Pets Breeding purposes Service - seeing-eye dogs, police dogs, hunting dogs, working dogs
Cats	Pets Breeding purposes
Game birds (pheasants, quail, turkeys, partridges)	Personal consumption Sales to individuals Hunting clubs

TABLE 1.1 continued

SPECIALTY ANIMAL	ENTERPRISE(S)
Goats	
Dairy goats	Family milk supply Family meat supply Grade A milk production (large investment)
Meat goats	Meat production
Angora goats	Hair production
Horses	Pets Work (draft, ranch) Breeding purposes Pleasure - riding, showing, jumping, racing
Miscellaneous	
Parrots, parakeets	Pets
Fish baits (crawdads, crickets, earthworms)	Supplying bait stores Operating bait store
Exotic animals	Pets

needed for full-scale production at first. There will be a higher start-up cost, but there will also be income as the first offspring is sold.

Local, county, and state zoning laws must be observed for any specialty animal enterprise. In addition, specific permits may be required.

The amount of money available will help determine which specialty animal enterprises would work. For example, raising purebred horses requires much more of an investment than does raising purebred dogs.

Sources of Information on Specialty Animals

Selecting a specialty animal, either as a pet or for starting an alternative agricultural enterprise, requires the consideration of some specific information concerning specialty animals. The following are some suggested sources of general information.

Extension offices - Publications concerning a number of specialty animals raised in Missouri may be obtained from local and state extension and 4-H offices. If there is no local office, write to the Extension Publications Office at the University of Missouri-Columbia and request a catalog of publications. Helpful publications may also be available from the USDA and the Missouri Department of Conservation.

Agricultural Education - Local, district, and state agricultural education instructors may have a wealth of information and practical application procedures for dealing with specialty animals. In addition, the state and national FFA, as well as the state and federal departments of education, may be able to supply helpful information.

Pet stores - Managers of pet stores are usually experienced in caring for the variety of animals which may be raised as pets. Let the manager of the store know of an interest in specialty animals and have ready a list of the information sought.

Library - Check the local, city, state, or nearest university library for general information on specialty animals. An important part of a librarian's job is to assist library patrons. Ask a librarian for help if lacking experience in using the library or an interlibrary exchange is needed to secure additional information.

Specialty animal producers - Often the best source of general information concerning a particular specialty animal is a person already involved in the production of that animal. Have some general questions ready to discuss with the producer, and perhaps ask to assist in feeding or providing some care for the animals.

Manufacturers - Visit or write to major feed, supplies, and equipment manufacturers throughout the state, expressing interest in raising specialty animals, and requesting that they provide general information concerning a selected specialty animal. Manufacturers often provide literature on animals and products as an educational service to their potential customers.

Breed and industry associations - For many specialty animals, such as goats and horses, there are national associations that maintain breed registries and provide their members with information relevant to the production and marketing of their products. Table 1.2 provides a list of associations and related publications which can provide information. The list is not complete, as there are also individual breed associations. There may be state organizations for some breeds or types of specialty animals.

Specific Information on Specialty Animals and Enterprises

Most students may not be familiar with specialty animals. A description and a summary of history and common production practices of each type follows.

HONEY BEE *(Apis mellifera)* - The honey bee is native to the West Indies as well as to Central and South America. Colonies of honey bees were shipped from England to the colony of Virginia as early as 1622. Colonists also brought honey bees to New York, Pennsylvania, Carolina, and Georgia. By 1800, honey bees were widely distributed from the Atlantic Ocean to the Mississippi River. In the 1850's, bees were shipped from the Eastern states to California. Most of the hives were sent by ship to Panama, by land across the Isthmus, and then by ship to California. Bees supposedly moved into the midwestern and mountain states in natural swarms or in hives carried by the early settlers.The first hives used in the American colonies were made of straw (straw skeps). Later, the abundance of cheap lumber and lack of trained people able to make straw hives caused a shift to box hives made of wood. Sections of bee trees containing colonies of bees (log gums) occasionally were sawed out and used as hives. In 1852, L.L. Langstroth patented a hive with movable frames that is still used today. An important feature of Langstroth's hive is the space kept open in the hive to allow bees to pass between and around combs. Langstroth is called the "father of modern beekeeping."

Superior merits of Italian honey bees were recognized by leaders in American beekeeping in the 1850's. The firstknown successful importation of Italian queen bees was made in 1860. During the last part of the 1800's some queen bees of other races were brought into the U.S. from Egypt, Cyprus, Syria, Hungary, and Tunisia. Dark bees of northern Europe predominated much of the bee population in the U.S. and Canada during the 1800's and into the 1900's. Strains present toward the end of the era tended to be irritable and nervous, running readily over the combs and hive. A less nervous, Italian-type bee that was bred in the southern U.S. replaced the dark bees before the end of the 1920's.

Since 1886 queen bees have been sent in the mail, a practice which has benefited both buyers and sellers. About a million queen bees are sent in the mail annually. Recent developments in bee breeding include the crossing of selected inbred lines to produce hybrid bees and, as of 1977, the direct sale of artificially inseminated queen bees. Controlling male and female lines in a commercial breeding program marks the beginning of a new era in bee breeding.

CHANNEL CATFISH *(Ictalurus punctatus)* - Fish farming has a long history. Fish were raised in ponds in the ancient civilizations of Egypt and

TABLE 1.2: Associations and Publications

Bees
National Honey Packers' and Dealers' Assn.
1515 Fifth St., Snohomish, WA 98290

American Beekeeping Federation
Rt. 1, Box 68, Cannon Falls, MN 55009

American Bee Journal Dadant & Sons
Hamilton, IL 62341

Dogs
American Kennel Club
51 Madison Ave.
New York, NY 10010

Cats
Cat Fancier Association
Box 34
Red Bank, NJ 07701

Rabbits
American Rabbit Breeders' Association
1925 S. Main St., Box 426
Bloomington, IL 61701

Fur Animals
National Board of Fur Farm Organizations, Inc.
13965 Burleigh Rd., Suite 109
Brookfield, WI 53005

Goats
American Goat Society, Inc.
1606 Colorado St.
Manhattan, KS 66502

American Dairy Goat Assn.
Box 865
Spindale, NC 28160

American Angora Goat Breeders' Assn.
Rocksprings, TX 78880

General Sources
NASCO
901 Janesville Ave.
Fort Atkinson, WI 53538

Horses
American Horse Council
1700 K. St. NW
Washington, DC 20006

American Horse Shows Assn.
598 Madison Ave.
New York, NY 10022

American Horse Publications
6000 Executive Blvd., Suite 317
Rockville, MD 20852

National Cutting Horse Assn.
Box 12155
Ft. Worth, TX 76116

Fish
American Fisheries Society
5410 Grosvenor Lane, Suite 110
Bethesda, MD 20814-2199

Missouri Fish Farmers' Assn.
Attn: Wayne Lucke
Rt. C
Palmyra, MO 63461
Missouri Department of Conservation
Division of Fisheries, P.O. Box 180
Jefferson City, MO 65102

Game birds
North American Game Bird Assn.
Box 2105 - Dept. G
Cayce, SC 29171

G.Q.F. Manufacturing Co.
P.O. Box 1552
Savannah, GA 31498

Missouri Game Bird Directory
Animal Sciences Department
University of Missouri-Columbia 65211

Mesopotamia around 3000 BC; carp have been raised in China since about 2000 BC.

During the Middle Ages in Europe, fish ponds were of great importance in supplying fish during times of fasting. Today, China is by far the most important producer of farmed fish, accounting for over half the total world output.

Catfish farming is an important agricultural in-

79

dustry in the United States, with more than 60,000 acres of water devoted to catfish production. The catfish are being raised under several production systems and with various degrees of management. Catfish farming generally requires the following:

1. Constructing facilities
2. Controlling water quality
3. Rearing, stocking, and feeding fish
4. Harvesting fish
5. Marketing

A fish farmer must decide what type of catfish farming enterprise to establish, based on the desired level of fish production and the availability of capital, land, and water resources. The size of the fish farming operation and the farmer's commitment to management will determine the efficiency and profitability of the enterprise.

One option for a fish farmer is to grow catfish in cages. Catfish cages are made of strong, vinyl-coated mesh wire attached to a metal frame; they look like a closed cylinder with a hinged door on top for feeding and harvesting. The cages are floated in open water using styrofoam blocks or plastic milk cartons. A cage should be anchored with its bottom 2 to 3 feet above the bottom of the pond. The number of fish produced in cages depends on the overall carrying capacity and water quality of the pond; production will be about the same in cages as in the traditional open pond culture.

Channel catfish possess a combination of desirable qualities for commercial production. The species usually does not reproduce in production ponds, giving the fish farmer control over pond populations. The fish is, however, quite easy to spawn, and adequate numbers of fry for restocking are obtained readily. Channel catfish accept prepared, artificial diets, and they exhibit very satisfactory growth and feed conversion. The fish tolerate crowding, adapt well to culture systems, and survive in a wide range of environments. When grown under the proper conditions, channel catfish have a mild, highly esteemed flavor, and the flesh retains a high quality after a variety of processing methods.

RABBITS *(Oryctolaqus cuniculus)* - Rabbits are herbivorous animals native to most parts of the world, with the notable exception of Australia. They have been hunted for food for many centuries and are thought to have first been domesticated by the Romans.

Rabbits are raised for meat production on a small scale in many areas of the world and are still hunted for sport and food in most countries where they are found. Today, more than 40 breeds of rabbits in many colors, patterns, sizes, and fur lengths are being raised around the globe. Some animal scientists are advocating an expansion of meat production from rabbits because they are more efficient than cattle and sheep at converting grass into meat.

Most commercial rabbits in the US. are raised for fur, research, hobbies, and pets, while in Asia and Europe rabbit meat is more commonly accepted as a source of food. The most widely-used breed is the medium-sized New Zealand White. It has a mature body weight of 9 to 13 pounds and should not be bred until it is six months old. The gestation period for rabbits is from 28 to 35 days, with an average of 31 days. If rabbits are bred the year round, the average rate of conception is about 60 percent. Average litter size is six and mortality from birth to weaning (at six weeks of age) is close to 20 percent. Female rabbits can be bred approximately every 10 weeks.

LABORATORY ANIMALS/MICE *(Mus musculis)* - Mice were first used as research animals in the early 1800's when European zoologists attempted to study the heredity of color. The explanation of their data, though, was incomplete until Mendel formulated his laws of heredity in 1900.

Mice are generally very fertile, easy to raise, and economically housed. They have gained a place in scientific research as a test animal used in the very first stages of experimentation. Mice are used in testing chemical compounds for toxic effects, for determining proper dosage ranges for drugs, and for measuring physiological reactions to selected chemicals. Cancer research programs alone require millions of mice annually.

Producers of quality mice for research become known to scientists through their efforts to improve their service and product. Some breeders specialize in the production of specific strains of inbred mice. Properly selecting strains of mice for research projects is a critically important step in the entire research process. Just as breeders are obligated to supply quality animals, scientists have to make sure they are purchasing the correct strain of animal for a particular project. For example, there are strains of mice which develop muscular dystrophy at about 60 days of age. They are useful in studying the development and effects of the same crippling disease in humans.

LABORATORY ANIMALS/GUINEA PIGS *(Cavia Porcellus)* - Guinea pigs are ancestors of a South American rodent species which still exists in Peru in the wild state. The species was taken to England by sailors and was developed in much the same manner as rabbits. There are three general types of guinea pigs: the Dunkin Hartley (short, smooth-haired, widely accepted for laboratory use); the Abyssinian (short, rough-haired variety); and the Peruvian strain (very long hair, seldom used in research). Each of the strains exists in a single color or multiple color combinations.

Guinea pigs are used in research involving bacteria and blood serum. The skin texture of guinea pigs is very similar to that of humans, making the animals useful in evaluating lotions and ointments.

A male guinea pig may serve 3 to 10 females, with a ratio of 1:6 recommended. The guinea pig male matures somewhat later than the female, usually in 8 to 10 weeks. Animals should weigh 450 to 500 grams before being used as breeeders. Female guinea pigs reach puberty at four to five weeks but normally they are not bred until three to five months of age. In any case, the female should be bred by the time she is six months of age or the chances of successful mating are limited.

LABORATORY ANIMALS/RATS *(Rattus norveqicus)* - The rat was one of the first animals used in the laboratory. Rats are popular experimental animals because their response to various nutrients is strikingly similar to the response of humans. Experimental work with the rat in the field of nutrition began in the U.S. in the early 1900's. Early studies involved research on vitamins. In addition to their use in nutritional studies, rats have been used widely in psychology and biology experiments.

Uniform rats required in laboratory work are obtained from breeders who have established closed colonies. Such rats are highly inbred and their use has become an accepted practice among research scientists. Established breeders can usually supply rats of a given sex and weight class with advance notice. To assure dependable research results, researchers tend to obtain their rats from the same source.

The female rat is normally ready to be mated at 80 to 100 days of age. The normal gestation period for the rat is 21 days. Litter size varies from 1 to17 young, with 8 to 12 young being the average. Young rats are usually weaned at 21 days of age. The young males and females should be kept separate until the females are old enough to be mated.

FUR ANIMALS/MINKS *(Mustela vison)* - Minks are medium-sized weasels that have the typical weasel-like short legs and long, lithe, supple body and tail. An average adult male mink has a total length of 20-30 inches, of which 7-9 inches will be tail length. Minks stand about 3 1/2 to 4 1/2 inches high at the shoulder, and their spines are humped in front of their hind legs. Adult females are much smaller than the males, measuring 16-21 inches in overall length. Males average between 1 1/4 and 3 1/4 pounds in weight. Female minks weigh between 1 1/4 and 2 pounds.

The mink is famed for the sheen, luster, silkiness, and beauty of its fur. The guard hairs are between 1 1/8 and 1 3/8 inches in length, and the soft underfur is about 1/2 inch in length. The tail appears bristly because of the guard hairs. The guard hairs of a mink, when viewed in sunlight, are almost prismatic, reflecting primary colors of green, blue, and red; each hair repeats the color several times along its length. The overall effect leans toward a bluish tint.

Raising minks in captivity began to be commercially feasible in the early 1900's; there were numerous mink farms in Canada by 1913. All of the original breeding stock came from minks that had been live-trapped in the wild. Pacific coast and Alaskan minks were the most avidly sought because they were the largest in size and the darkest in color.

Female minks reach maturity at about 10 months of age, males in slightly over 16 months. Both sexes are capable of breeding when they are a year old. Breeding season for minks usually occurs during the last week of February or the first week of March. Adult females usually breed on exactly the same day each year and it is usually exactly the same day on which their mothers were bred. One male will mate with as many females as he can locate. The gestation period for minks varies between 40 and 70 days due to delayed embryo implantation. Almost all baby minks are born between April 25 and May 15.

Newborn mink litters will consist of between 3 and 8 young, with 3 to 5 being the norm. The potential lifespan of a mink is 10 years in captivity.

FUR ANIMALS/RED FOXES (*Vulpes vulpes*) - An adult red fox weighs about 9 1/2 pounds. There are 12 sub-species of red foxes found in North America, those in the north being slightly larger and weighing more than their southern counterparts. The tail of the red fox is 13 to 16 inches in length, very bushy, and cylindrical in shape. It is usually white-tipped, with the amount of white varying from just a few terminal hairs to a distal tuft of 2 to 3 inches. Red fox pups often lose their white tail tip by having it bitten off while playing or fighting.

The color of the red fox varies greatly, with the southern foxes being a sandy blond, while those in the far north are a deep cherry red. The chin, neck, chest, and belly of a red fox are white, as are the sides of the fox's upper hind legs. Their front legs and hind feet are black. Their ears, which are about 3 1/2 inches long, are light-colored on the inside and black on the outside. Common color variations in the north are: (1) the cross fox, which is a brown rather than reddish color, with a very dark brown band of hair going down its spine and another crossing its shoulders, (2) the black fox, which has all-black hair, (3) the silver fox, which has always brought the highest price paid for any of the red fox pelts, (4) the mongrel fox, which has bluish-gray fur instead of red, and (5) the Samson fox, which has a short woolly undercoat with no guard hairs.

Most red foxes breed during the last 2 weeks of January. The red fox's gestation period is between 52 and 53 days, with most of the pups being born about the middle of March. The usual litter has 6 to 8 pups.

FUR ANIMALS/RACCOONS *(Procyon lotor)*- Raccoons vary greatly in both color and size, depending on which section of the country they inhabit, with those in the northern part of their range being the darkest. Raccoons taken from the saltwater coastal marshes are usually more reddish. Raccoons in the north also tend to be much larger than those in the south. An adult raccoon in the north will stand 9 to 10 inches high at the shoulder and measure from 34 to 38 inches in total length, 10 to 13 inches of the length being its tail. The average weight of a northern adult male raccoon is 15 to 18 pounds. Female northern raccoons weigh between 12 and 15 pounds.

Most raccoons breed in February. Male raccoons are polygamous and will breed with as many receptive females as they can find. Female raccoons are capable of breeding when they are 10 months old. Males usually do not breed until they are 22 months old. Gestation period for the raccoons is usually 63 days.

The average litter in the south is 2 to 4 young, while 4 to 6 is more common in the north. Most of the young are born in April. The normal lifespan of a raccoon is 10 years.

COMPANION ANIMALS/DOGS *(Canidae)* - The variability in size, shape, and coloring of dog species is unique among mammals. Pups from the same litter may differ radically in temperament and external appearance. Man has used the diversity in the Canidae in selective breeding, and today there are more than 100 different breeds of domestic dogs. Classification of dog breeds differs from country to country and usually reflects the main dog interests of each nation. The six main groupings of the American Kennel Club are:

1. *Sporting breeds* - Bird or gun dogs, including retrievers, spaniels, setters, and pointers.
2. *Hounds* - Dogs that hunt by scent (bloodhounds, beagles, and foxhounds) and by sight (Greyhounds, Afghans, and Salukis).
3. *Working dogs* - Divided into herding, guard, and sled dogs. Common breeds in the group include the Collie, the Alsatian and Old English sheep dogs, St. Bernards, Doberman Pinschers, Alaskan Huskies, and Samoyeds.
4. *Terrier breeds* - Known for their persistence and aggressiveness, terriers were initially used to flush badgers and foxes from their dens. The majority of breeds have been developed in the British Isles.
5. *Toy dogs* - Mostly smaller editions of normal-sized breeds. They include Pekingese, Mexican Hairless Dog, Maltese, Yorkshire Terrier,and Chihuahua.
6. *Non-sporting breeds* - The group consists mainly of housebound breeds and show animals, many of different ancestry. Included are the Dalmatian and Chow Chow.

Dogs have acute hearing and an excellent sense of smell. No matter what the breed, a dog recognizes the scent of another dog. All dogs also have certain motor patterns that may be easily interpreted by other dogs, especially during social interactions. Most patterns, like rapid tail-wagging to indicate friendliness, and snarling or growling to signify threat, are like the social behavior patterns of wolves. Despite their radically different life styles today, dogs and wolves share the same basic behavior.

Sexual maturity in domestic dogs usually occurs at the age of one year. The gestation period of the dog, like those of the wolf and the coyote, is about 63 days. Litter sizes may vary from 4 to 10 pups.

COMPANION ANIMALS/CATS *(Felis catus)* - By the time of the Ancient Egyptians five thousand years ago, the cat was established as one of the most prominent domestic animals. Over the centuries, the cat has played an important role as a working animal. Even in ancient times cats were trained for fishing and hunting by the Egyptians, and they have always been used to eradicate rats and mice on farms and in homes.

There are many color varieties of the ordinary domestic cat, including marmalade, ginger, tortoise shell, blue, silver, and black. All of the well-known color variations have arisen from mutations after the cat was domesticated. Popular breeds include:

1. *Angora* (also called Persian) - Long, silky fur with heavy ruffs of fur around the neck and thick tufts between the toes. The tail is long and bushy. Color varies from pure white to gray.
2. *Siamese* - The color of the short fur changes from pure white in the kitten to a pale fawn color in the adult, with the nose, mouth, ears, feet, and tail dark brown. The breed has blue eyes and sometimes a kinked tail.
3. *Abyssinian* - A very slender animal with large yellow, hazel, or green eyes and a weak voice. Its coat is gray-brown to reddish.
4. *Russian blue* - Has a soft, seal-like coat, bright blue in color, and vivid green eyes.
5. *Manx* - Short-haired and tailless. The manx has a short back and high hindquarters. It walks with a bobbing gait and is by far the fastest on the ground of all domestic cats.

Domestic cats are sexually mature at 10 months or less, the earliest record being 3 1/2 months. The height of the breeding season is from late December to March. Gestation period is usually 65 days but may vary from 56 to 68 days. There are usually up to 8 kittens in a litter. Weaning begins at 2 months.

GOATS *(Capra Hircus)* - Goats are native to southwestern Asia and, along with sheep, were the first ruminant animals to be domesticated, possibly as early as 10,000 years ago. The largest populations of goats are generally found in areas that are either too hot, mountainous, or unproductive for cattle raising, such as the barren hilly areas of southern Europe and the Near East, parts of lower India, China, and the semi-arid regions of Africa.

The main uses of goats as agricultural animals include the production of milk, meat, hair, and skins. Goats can make better use of poor-quality nutrients derived from rough pastures or scrubland than either cattle or sheep. Goat's milk accounts for only about 1.5 percent of world milk production and thus seems insignificant when compared with cow's milk production. In certain areas of the world, though, goats are often the major or only source of dairy products. Goat's milk can be preserved as cheese, butter, yogurt, curd, and other products. Goat meat and kid (the meat of young goats) account for less than 1 percent of total meat production but, like goat's milk, they are an important food source in certain parts of the world.

Two specialized hair products are produced from goats specifically bred for that purpose. Mohair, which is used for making hard-wearing, light-weight suits and other clothes, is the hair of Angora goats. Large herds of Angora goats are kept for such a purpose in South Africa, Turkey, and the United States. Cashmere, a fine silky wool-like hair, is produced from goats kept mainly in northern India and Tibet.

Male goats (bucks) generally reach maturity at the age of 4 to 6 months, while females (does) reach maturity in 5 to 7 months. Length of gestation period in goats is generally 146 to 151 days. Twinning is desirable in goats; two kid births are usual and three kid births are common.

HORSES *(Equus caballus)* - The horse is believed to have originated in Central Asia. It was probably first hunted for food and certainly was not domesticated until long after dogs and cattle. Once tamed, the horse was invaluable to man. In addition to serving as a draft animal and means of transport, horses have also been used in sports and recreation.

The height of a horse is measured in 4 inch (10 cm) units, or hands, from the highest point of the back (withers) to the ground. Selection and breeding have resulted in approximately 150 breeds and types of horses that can be grouped as follows:

1. *Heavy horses* - Long bones and thick, sturdy legs. Some weigh more than 2,000 pounds. Up to 20 hands in height.
2. *Light horses* - Small bones and thin legs. Most weigh less than 1,300 pounds. Intermediate in height.
3. *Ponies* - Most weigh less than 800 pounds. Stand less than 14.2 hands high.

Heavy horse breeds include the Belgian, Percheron, Shire, Clydesdale, and Suffolk. Classified as light horses are the Arabian, Thoroughbred, Lipizaner, Palomino, Morgan, Tennessee walking horse, American saddle horse, Quarter horse, and Appaloosa. Among the most common ponies are the Shetland, Iceland, Hackney, and Welsh.

A mature male horse is called a stallion, the female a mare. A stallion used for breeding is known as a stud. A castrated stallion is commonly called a gelding. Young horses are known as foals; male foals are called colts and females are called fillies.

The onset of adult sexual characteristics in horses generally begins at the age of 16 to 18 months, and a horse is considered mature, according to the breed, at approximately three years and adult at five. Reproductive ability varies according to the breed. It may last beyond age 20 with thoroughbreds and from 12 to 15 years with other horses. The gestation period is 11 months, 280 days being the minimum in which the foal can be expected to survive.

The working life of a horse varies according to the amount of work it is required to do and the maintenance furnished by its owner. The life span of a horse is 30 to 35 years at the most, the rule being about 20 years.

GAME BIRDS/PHEASANTS *(Phasianus colchicus)* A variety of game birds, including pheasants, quail, partridges, pigeons, and turkeys are being raised for purposes such as hunting club use and home consumption. The Chinese Ring-Neck Pheasant is often raised because it is common, colorful, and relatively easy to raise. Procedures and costs for raising quail are very similar to those of the pheasant, for comparison purposes. The Coturnix (Japanese) Quail is sometimes preferred to the bobwhite quail because it matures more quickly and is hardier.

To successfully raise pheasants from breeding stock or eggs, major investments for facilities and equipment are usually necessary, as well as expertise in the area due to the birds' fragility and susceptibility to disease. Therefore, it is often recommended that beginners start with one-day-old chicks. They are ordered from licensed game bird breeders before the start of the season, which runs from April to June.

Pheasants mature, or have full feathering, at 16 weeks of age, and have a productive life span of 2 to 4 years. For breeding stock, a ratio of one male to ten females is suggested. The male pheasant has the distinctive and colorful ringed neck, while the female is a mottled brown in color.

Since game birds are very susceptible to diseases, certain precautions must be taken. Sheds or pens previously used for other poultry cannot be used to raise game birds. Overcrowding of chicks in brooders leads to cannibalism, so follow suggested space requirements. The correct brooder temperature and humidity for young chicks are essential for their survival, as is the use of clean, high-quality feed and maintenance of dry feed/watering areas. Rocks or marbles are placed in drinking pans for young chicks to prevent drowning. Protection from predators, including household pets, raccoons, and skunks is necessary.

At the age of 6 weeks, chicks must be conditioned for their intended use. If pheasants are to be sold for hunting purposes, they must be conditioned to fly in larger flight cages. If intended for home consumption, special feeds and confinement are necessary.

Raising game birds successfully requires careful planning. Acquiring a copy of the Wildlife Code of Missouri from the Conservation Department will help prospective owners.

Miscellaneous - There are many other possible specialty animal enterprises which could be successful if researched thoroughly. Among the animals raised are parrots, parakeets, exotic animals, and fish baits (crawdads, crickets, and earthworms).

Potential Enterprises in the Community

Specialty animal enterprises can extend in many directions and fill a variety of local needs. A partial list of potential enterprises follows:

1. Raising game birds for hunting clubs
2. Supplying pet stores with animals
3. Selling fresh fish at the farmer's market
4. Boarding companion animals
5. Producing fingerlings for stocking ponds
6. Removing problem bee hives
7. Producing fish for processing plants, local stores, or restaurants
8. Selling rabbit manure to worm growers
9. Raising pigeons for squab meat
10. Boarding horses
11. Renting bee hives to fruit or vegetable producers
12. Operating a fishing-for-fee lake
13. Selling goat milk or hair
14. Herding cattle for ranchers
15. Raising rabbits for angora wool

Summary

Raising specialty animals as an alternative or in addition to raising traditional livestock presents opportunities for both pleasure and profit. Exploring the many possibilities of specialty animal production for profit is an important first step to take in considering the raising of specialty animals as an agricultural enterprise.

Credits

Burnett, James J. J & J Game Birds. Personal and telephone interviews, January, 1989.

Chambers, Glenn D.; Walter Russell. Techniques and Hazards of Raising Pheasants (G09525). Columbia, Missouri: University Extension, 1978.

Cheeks, Peter R.; Nephi M. Patton; George S. Templeton. Rabbit Production. Danville, IL: The Interstate Printers and Publishers, Inc., 1982.

Ensminger, M.E.; R.O. Parker. Sheep and Goat Science (Animal Agriculture Series), 5th ed. Danville, IL: The Interstate Printers and Publishers, Inc., 1986.

Hanson, Loise G.; Lily A. Davis. The Basic Beekeeping and Honeybook. NY: David McKay Co., Inc., 1977.

Morse, Roger A. The Complete Guide to Beekeeping-New, Revised Edition. NY: E.P. Dutton, 1980.

Mosesson, Gloria R.; Sheldon Scher. Breeding Laboratory Animals. NY: Sterling Publishing Co., Inc., 1968.

Rudolph, James A. Equine Management and Production. Stillwater, OK: State Department of Vocational and Technical Education, 1980.

Sandford, J.C.; F.G. Woodgate. The Domestic Rabbit. 3rd ed. NY: John Wiley and Sons, 1979.

Scheid, Dan W. Raising Game Birds (A Farmer's Digest Publication). Brookfield, WI: The Highsmith Company, 1970.

Tucker, C.S., ed. Channel Catfish Culture. Elsevier Science Publishers, 1985.

Lesson 2:

Profitability of Specialty Animal Enterprises

Specialty animals are raised for either personal pleasure and companionship or for making money. In many cases, specialty animals such as dogs and guinea pigs can be used for both pleasure and profit. This lesson will concentrate on the profitability of specialty animal enterprises. To determine profit, both costs and income must be known. There are two kinds of costs involved.

Start-up costs - Costs a person will have in beginning or setting up a new business enterprise.

Operating costs - Costs a person will have while operating or running a business.

For some specialty animal enterprises start-up costs are low, so it does not take much money to begin the enterprise. For other enterprises, it takes a large amount of money to get started. For example, it will take more money to start a horse enterprise than to start a rabbit enterprise. In the same way, the operating costs or everyday costs will vary depending on the particular specialty animal enterprise selected and its size.

Sources of Cost Information

It is often hard for a person looking at a new enterprise or project to determine what costs will be. A list of common sources of cost information follows, arranged by kind of cost.

Breeding Stock - For many specialty animal enterprises, purchasing breeding stock will be the major cost. The most accurate estimate of cost will be from commercial growers who are raising a particular specialty animal. If unfamiliar with local owners, ask an agricultural education instructor or extension agent. Also check telephone yellow pages and newspaper classified ads. Sometimes the advertisement will give prices; if not, call the person or company.

For many specialty animals, there are state and national associations that can give information. Some of them were listed in Lesson 1. Other groups such as Missouri Fur Buyers or Missouri Fish Dealers can be found by looking in the library or by contacting an extension or conservation agent.

Housing and facilities - Most specialty animals will require some type of housing or shelter. Often there will be an unused building on the farm or property such as an abandoned chicken house. Sometimes having a building available will help in determining what specialty animals to raise. A barn might be suitable for goats or horses. Cages for rabbits or minks might fit well in another building. Perhaps shelves for mice or guinea pigs will fit in an unused small garage.

If a building is not available, it may be necessary to build a shelter. Check with an extension agent for plans. A building materials supplier can also provide plans and prices for lumber and other building materials. Also check the newspapers or magazine classified ad sections for new or used facilities such as rabbit hutches.

Equipment - Retail farm supply stores carry such items as feeders, waterers, and cleaning or handling equipment. Check several different stores to compare prices. Companies that specialize in equipment often have catalogs that give prices. Often their advertisements in magazines will give an address for ordering free or low-cost catalogs.

Feed - Most feed dealers will have feeding tables already developed that tell how much feed each animal or group of animals will eat. Usually the dealer will have worksheets that will help to determine feed costs for an individual enterprise. They may include complete feeds that are ready to feed to animals, or supplements that are mixed with feeds already on hand.

The extension agent or agricultural education instructor may also have recommended feeding guides. Take the guides and fill in prices received from feed dealers in the community.

Medication and health care - Most specialty animal enterprises will require medicines and other health care. The owner can give some medications and health care needs, while others, such as rabies shots, must be given by a veterinarian. The local veterinarian is an excellent source of information. Guides and pamphlets are available that give all of the health care treatments the animal should receive. Health care product distributors also have catalogs that give products and prices. Often many items can be purchased at a feed store or retail farm supply store.

Labor - With most of the specialty animal enterprises, the owner/producer will provide the majority of the labor. There may be times, however, that hiring additional help is necessary. Often classmates or neighbors may be hired. It may be possible to trade work. If hiring help, get an idea of what to pay from the help wanted section of the newspaper. A job services office may be able to supply rate information for that type of work. Also check with other employers.

Marketing - The cost of marketing specialty animals varies considerably depending on the enterprise and the distance to markets. Other producers or companies that buy specialty animals will be the best market information sources. Sometimes there may be a marketing association made up of a group of producers. Check with commercial transportation companies such as trucking firms. Do not overlook the equipment required for marketing the specialty animal (shipping boxes for dogs, or large tanks with aerators for fish, for example).

Permits or licenses - Some specialty animal enterprises such as fur animals, game birds, exotic animals, and fish require special licenses from the county or the conservation department. If an enterprise is located within a city, a permit may be needed. Check with city and county licenses offices, as well as with the Department of Conservation, to determine what permits and licenses are needed.

Utilities - Depending on the size and type of enterprise, there may be expenses for electricity, gas, and water. They may be paid directly to the utility company, parents, or the person supplying the building or land. Rates can be acquired from the companies or individuals.

Interest - Some specialty animal enterprises require large start-up or operating costs. It may be necessary to borrow money until some of the animals raised can be sold. A local banker is the best source of information. Other sources include product credit associations and suppliers.

Death loss - Producers of most animals expect some death losses and take them into account when figuring costs and profits. Expect that a certain number of the breeding stock will have to be sold because of health or breeding problems. Other producers and the local veterinarian can give a general idea of the losses to expect. Also check books, magazines, or extension production guide projections.

Insurance - Buildings and facilities require insurance. Liability insurance may also be needed if there is any danger to others, such as raising dogs or fur animals might cause. A local insurance agent can give such information.

Total enterprise costs - Several sources could be contacted to find out cost information for the whole enterprise. These sources include: other producers, county or state extension services, agricultural education instructors, related departments of agricultural colleges, and state or federal associations.

Start-up Costs

With all specialty animal enterprises, there will be expenses or costs to get started. Some of them have been discussed in previous sections of the lesson. In the following chart, general start-up costs are given for selected specialty animal enterprises. Often a range will be given. Cost will depend upon whether new or used materials, equipment, or buildings are bought or built. The quality, size, and breed of animals will also vary within an enterprise. Purebred registered animals from a well-known breeder will be more expensive than grade animals from a commercial producer.

Labor Requirements and Operating Costs

Since there are so many differences between the specialty animal enterprises, the amount of time or labor required will also vary. The size of a specialty animal enterprise (or number of production units involved) will help determine how much time is required. The following chart gives labor estimates. They will be affected also by facilities and equipment involved. For example, self-waterers and self-feeders reduce labor requirements. The arrangement of pens and materials used in construction affect cleaning time.

Expected operating costs with some selected specialty animal enterprises are also given in the following charts. In general, feed costs will be the

TABLE 2.1 - Start-Up Costs for Specialty Animal Enterprises

Bees - cost for one hive	a) Two-deep hive body	$90-$130
	b) Three pound swarm of bees	$25-$40
	c) Equipment 1) Tack hammer 2) Hat and veil 3) Hive tool 4) Smoker 5) Coveralls and gloves 6) Bee brush 7) Feeder	$50-$60
	d) Honey extractor	$25-$200
Tropical fish - one tank	a) Starter fish	$0.30-$1.00 each
	b) Equipment 1) Ten gallon aquarium 2) Filter 3) Air pump and plastic hose 4) Heater and thermometer 5) Gravel 6) Glass top	$40-$60
	c) Examples 1) Serpaetetra 2) Zebra danio 3) Algae eater 4) Black tetra	
Channel catfish - one cage	a) Chemicals to remove unwanted fish	$20-$50
	b) 4 x 4 circular cage	
	1) home-constructed	$40-$60
	2) purchased	$120-$150
	c) Fingerlings (300-400)	$20-$40 per hundred
	d) Dip net	$10
	e) Aeration equipment (may not be needed)	$80-several hundred
	f) Equipment for selling live fish	
	1) tank, 200-300 gallon	$90-$125
	2) aerator	$80-$85

Dogs - female and one litter per year	a) Female	$50-$500 depending on breed
	b) Breeding stud fee	$50-$150 or pick of litter
	c) Dog house	$25-$50
	d) Confinement	
	1) chain	$5-$10
	2) fence or kennel	$50-$250
	e) Feeding/watering equipment	$10
	f) Veterinary services	$30-$60
Cats - male, female, and one litter per year	a) Female	$35-$150 depending on breed
	b) Male (can serve several females)	$35-$150 depending on breed
	c) Sleeping box or house	$10-$40
	d) Pen	$10-$50
	e) Feeding/watering equipment	$10
	f) Veterinary services	$20-$30
Fur animals - Minks male, female, and one litter per year	a) Breeding animals	
	1) female	$30-$200 depending on breed and color
	2) male - can serve up to 5 females	$30-$200 depending on breed and color
	b) Cages or pens	$20-$150
	c) Shelter and nesting boxes	$10-$30
	d) Feeding/watering equipment	$10
	e) Knife, stretching boards for pelts	$10-$20
	f) Shipping crates for live animals	$15-$20
Goats - doe and 1 kid	a) Breeding animals	
	1) doe	$120-$150
	2) buck (can service several does)	$120-$150
	b) Fencing	
	1) collar and chain	$10-$20
	2) pen	$50-$300
	c) Shelter	up to $1,000's
	d) Health maintenance equipment	$50
	e) Feeding/watering equipment	$20-$80
	f) Milking stand/buckets	$20-$50
	g) Pasteurizer	$150
	h) Refrigerator for milk	$100-$250

TABLE 2.1 - continued

Horses - one	a) Mare	
	1) gentle, middle-aged, grade	$500-$1,000
	2) registered, partially to fully trained	$1,000 and up
	b) Tack	
	1) saddle	$100-$700
	2) bridle and bit	$30-$100
	3) halter and lead	$6-$30
	4) grooming supplies (brush, hoof pick, comb)	$1-$6 per item
Laboratory animals suggested: (1 colony)	a) Breeding animals	
Mice - 80 female 20 male	1) mice	$1-$2 per mouse
	2) rats	$4-$5 per rat
	3) guinea pigs	$5-$20 per pig
Rats - 45 female 15 male	b) Growing/nesting cages	
	1) mice (one per 2 females)	$50 each (commercial)
Guinea pigs 30 female 10 male	2) rats (one per female)	$75 each (commercial)
	3) guinea pigs (one per female)	$125 each (commercial)
	c) Holding cages - 10/species (metal preferred)	$50-$200 for 10
Rabbits - 2 female, 1 male	a) Breeding animals	
	1) 2 does	$8-$16 each
	2) 1 buck	$10 and up
	b) Hutch (one per doe plus one per buck)	$10-$50
	c) Feeding/watering equipment	$5-$10 per hutch
	d) Nest box	$1-$5 per doe

Game birds - Pheasants - 50 one-day-old chicks	a) Chicks	$1 each
	b) Brooder cage	
	1) Home-constructed or rectangular cardboard box, 3 1/2 ft. x 2 ft. x 2 ft.	varies
	2) Purchased	$90
	c) Thermometer	$3-$4
	d) Brooder light/heat lamp	$4
	e) Feeders	$9
	f) Waterers (2 one-gallon, drown-proof boxes)	$5 each
	g) Hobby permit (up to 50 birds, no resale)	$5
	h) Missouri Breeder's Permit (more than 50 birds, resale)	$20 annually
	i) Litter (pulpwood chips, not sawdust)	$5 for 50 lbs.
	j) Vitamins	$2
Miscellaneous (check with local producers)		

largest operating cost for most specialty animal enterprises. Other enterprises may require considerable health maintenance cost. Operating cost listed are approximate and based on one year unless indicated otherwise. Cost are subject to change; therefore, it is necessary to update this information periodically.

Ways of Measuring Profit

Both expenses and income must be known to determine the profit from a specialty animal enterprise. Expenses were discussed first. Income will be discussed next. Often the term "receipts" is used in place of "income".

Receipts - Gross receipts are the total money that comes in from the specialty animal enterprise. For most enterprises there will be several sources of income. For example, with a rabbit enterprise most of the rabbits will be sold for meat. Some female rabbits, however, may be sold for breeding stock; the manure can be sold for garden fertilizer. All three income sources are added together to give gross receipts.

The amount remaining after the variable costs such as feed, medication, and utilities are subtracted from gross receipts is called income over variable costs. Net income is the amount remaining after variable costs and fixed costs (e.g., depreciation, building rent) are subtracted from gross receipts. Net income is a more accurate measure than gross receipts of the profits from a specialty animal enterprise.

Capital items are things such as breeding stock, equipment, and buildings that are used for several years in a business without being used up. Since they are used for several years, their costs must be divided over the years to give an accurate picture of the profits made. For tax purposes, it is also illegal to deduct the total cost of a capital item in one year. The yearly deduction is called depreciation.

Budget - A budget is a dollars and cents evaluation of an enterprise being considered. A budget lists expenses and receipts and tells what profits can be expected.

Budget Form 103 can be used with a specialty animal enterprise. Receipts or income are shown on the first page under the "ownership" column. Income should be listed in the month it will be received as well as included in the last column, which is the total for the year.

Expenditures are shown on the second page of the budget. Operating expenses are listed in the month in which they will occur as well as under the Total column. In such a budget, money spent on capital purchases must also be shown.

A Cash Balance for the beginning and end of each month is shown on the budget. The cash balance will show if money must be borrowed during the month or if there will be extra money available that can be put in savings to earn interest.

Performance measurements - The total number of pelts, milk, honey produced, or rabbits raised does not give all the financial information needed. There are several ways of measuring how well an enterprise did. Compare the enterprise from one year to the next year, and compare the enterprise with other people's enterprises.

One performance measure involves determining the return on total investment. The net income is divided by the total amount invested in the specialty animal enterprise. For example, if the net income for an enterprise was $200 and the investment was $1,600, the return on total investment was 12.5 percent ($200/$1,600).

Often part of the money is borrowed to start a specialty animal enterprise. Return on equity tells the producer how much money was made on the money actually invested. For instance, if in the previous example $400 was borrowed out of the $1,600 total investment in the project, owner's equity was $1,200. The return on the owner's equity was 16.7 percent, or $200 net income/$1,200 owner's investment, which would be a good return on the equity.

Determine what kind of a return was made on the time spent on the specialty animal enterprise. (Time estimates are given for each enterprise; it is important to keep accurate records of personal time spent.) No one wants to work for free, or for less than could be made at another job. For example, Paul spent 100 hours with his specialty animal enterprise and his net profit was $450. Thus, he made $4.50 for each hour he worked. Paul must then decide if $4.50/hr is a good return on his labor, or if he could make more money at another enterprise, or by working for someone else.

Finally, for some enterprises profitability can be indicated by feed per pound of gain, that is how many pounds of feed it takes to produce one pound of a product, such as catfish. A producer's feed conversion rates can be compared with those of other producers to show how well the producer is doing.

Summary

If a specialty animal enterprise is selected to make a profit, it is necessary to know the costs involved. They include the start-up costs of beginning an enterprise and the operating costs involved during the time the project is going on. Expected receipts or income must also be known. Accurate records are a necessity.

Credits

Burnett, James J. J & J Game Birds. Personal and telephone interviews. January, 1989.

Chambers, Glenn D.; Walter Russell. Techniques and Hazards of Raising Pheasants (G09525). Columbia, MO: University Extension, 1978.

Ensminger, M.E.; R.O. Parker. Sheep & Goat Science (Animal Agriculture Series), 5th ed. Danville, IL: The Interstate Printers and Publishers, Inc., 1986.

Giammatteo, Victor M. Raising Small Game Animals. Danville, IL: The Interstate Printers and Publishers, Inc., 1976.

Gojmerac, Walter L. Bees, Beekeeping, Honey & Pollination. Westport, CT: AVI Publishing Co., Inc., 1980.

Lee, Jasper S. Commercial Catfish Farming. Danville, IL: The Interstate Printers & Publishers, Inc., 1973.

Tucker, C.S., ed. Channel Catfish Culture. Elsevier Science Publishers, 1985.

McGuire, Bernadette. Horse Health Primer. Cornell University, Ithaca, NY: Instructional Materials Service, College of Agriculture and Life Sciences.

Morse, Roger A. The Complete Guide to Beekeeping - New, Revised Edition. NY: E.P. Dutton, 1980.

Mosesson, Gloria R.; Sheldon Scher. Breeding Laboratory Animals. NY: Sterling Publishing Co., Inc., 1968.

Raising Catfish for Food and Fun. Jefferson City, MO: Missouri Department of Conservation, 1983.

Rudolph, James A. Equine Management and Production. Stillwater, OK: State Department of Vocational and Technical Education, 1980.

Scheid, Dan W. Raising Game Birds (A Farmer's Digest Publication). Brookfield, WI: The Highsmith Company, 1970.

TABLE 2.2 - Labor Requirements and Operating Costs

ENTERPRISE	OPERATING COSTS		LABOR REQUIREMENTS	
Bees - one hive	Containers for honey 1/2 or 1 lb.	$0.15-$0.30 each	Construction of hive body	10 hours
			Extraction, straining, and putting up of honey	5 hours
			Checking hives	15-30 min/week
			Moving hive, if needed	1-2 hours
Tropical fish - one tank	Fish food	$5-$10/year	Feeding and maintenance	10-15 min/day
	Filters (fiberglass or charcoal)	$1-$4	Changing water	1 hr/week
Channel catfish - one cage	Complete floating feed	$130-$150	Cage construction	2-5 hours
	Ice for fish (selling on ice)	varies	Feeding and observation	15 min/day
	Ice boxes or coolers	varies		
			Catching	varies
			Cleaning catfish for selling	12-15 per hour
			Pond maintenance	varies
Dogs - female and one litter pups weaned at 6-8 weeks	Feed: depends on size and breed	$100-$250	Feeding, watering, and care	15-30 min/day
	Vaccinations	$25-$30	Cleaning pens	1-2 hrs/week
	Deworming, flea collar, etc.	$15	Visits to vet	1 hr/2 times year
	Vac. per puppy	$15		
	Vitamins, other supplies for pregnant female	$10		

ENTERPRISE	OPERATING COSTS		LABOR REQUIREMENTS	
Dogs (cont.)	Feed per puppy	$2-$10		
	Breeding fee	$50-$150 or pick of litter		
Cats - male, female, and one litter kittens weaned at 6-8 weeks	Feed: adults per kitten	 $60-$100 $10-$30	Feeding, watering, and care	15-30 min/day
			Visits to vet	2 hrs/2 times year
	Vaccinations: adults per kitten	 $20-$25 $10		
	Deworming, etc.	$5		
	Litter	$20-$40	Cleaning litter box	15-30 min/day
Fur animals - Minks - male, female, and one litter/year, 4 weaned	Feed	$100-$120	Feeding and watering	15-30 min/day
	Flea powder, dewormers, etc.	$5-$10	Cleaning cage	1-2 hrs/week
	Bedding	$10-$30	Cleaning nest boxes, changing bedding	15-30 min/week
			Skinning and stretching	1/2-1 hr each
Goats - one doe and kid	Feed and minerals	$30-$60	Feeding/milking, twice daily	1 hr per doe each day
	Artificial insemination	$20-$30	Artificial insemination	1 hr per doe
	Bedding	$10-$30		
	Deworming, external parasite control	$3-$5	Deworming	15 min/3 times/year
	Shearing	$3 each	Cleaning pen, changing bedding	30 min/2 times/week
	Milk replacer for kid	$25		
	Feed for kid	$10-$20		

TABLE 2.2 - continued

ENTERPRISE	OPERATING COSTS		LABOR REQUIREMENTS	
Horses - one mare	Full board with indoor arena	$100-$250 per month	Feeding	15-30 min/day
	Shelter and feed only provided	$50-$100 per month	Grooming and cleaning	15-30 min/day
	Stall rental only	$20-$75 per month	Cleaning stall, changing bedding	30 min/day
	Home care: grain, hay bedding	 $50/month $10/month	Training	varies
	Hooves trimmed every 6-8 weeks	$70		
	Shoe care	$100		
	Health care: Deworming (twice) Vaccinations	 $30 $30		
	Teeth care - floating	$15		
	2 vet visits/year	$40		
	Stud fee	$50 and up		
Laboratory animals				
Mice - colony of 100 breeding animals	Lab. feed	$13/week	Feeding, observation, and care	20 hrs/week
	Fresh bedding	$7/week		
Rats - colony of 60	Lab. feed	$13/week	Feeding, observation, and care	20 hrs/week
	Fresh bedding	$7/week		
Guinea pigs - colony of 40	Lab. feed	$20/week	Feeding, observation, and care	20 hrs/week
	Fresh bedding	$7/week		

ENTERPRISE	OPERATING COSTS		LABOR REQUIREMENTS	
Rabbits - double hutch, two does, one buck	Feed:		Feeding, observation, and care	15-30 min/day
	doe, 6 oz./day	$0.18/day		
	buck, 3-6 oz./day	$0.10-$0.20/day	Breeding	15 min per doe
	Doe and litter, 10-28 oz./day	$0.30-$0.80/day		
Game birds- pheasants - 50 one-day-old chicks	Feed	$18	Feeding, watering, and care	30 min/day
	Feeders (2 tube type)	$20 each		
	Litter (4 bales grass hay/fescue-not straw)	$2 each		
	Flight cages, outdoor pens (unused bldgs. okay)	varies		
	Debeaker (optional)	$3		
	Waterer (5 gal., double-walled fountain)	$20		
	Medicine	$3		

Lesson 3:
Comparative Economic Advantages of Selected Specialty Animal Enterprises

Each specialty animal enterprise has economic advantages and disadvantages, which must be recognized and weighed by students, so that they can decide which enterprise best suits their situation.

Comparative Costs of Specialty Animal Enterprises

Types of costs - There are two types of costs that occur which must be considered when planning a specialty animal enterprise. They are fixed and variable costs. Fixed costs are costs that must be paid regardless of how much is produced in an enterprise. They stay the same over a period of time; thus, they are considered fixed costs.

Once an enterprise is started, fixed costs must be paid. Examples of fixed costs are rent on a building, interest and principal payments on money borrowed, and insurance and taxes on buildings. Therefore, it is important to make careful plans before starting a specialty animal enterprise. No one wants to invest in buildings and equipment, then after a short time decide to do something else. Fixed costs would still have to be paid.

Variable costs are directly related to the level of production in the enterprise. They will increase as the production level increases. Variable costs will depend upon how big the operation is and on the growth stage of the animals. Medicine and health care costs for ten doe goats will be more than for five doe goats. The cost of feed for 6-inch catfish is less each week than it will be when the catfish grow to 12 inches long. Other things may also affect the variable costs. There may be utility costs for heating in the winter or for cooling in the summer. Variable costs are often harder to estimate than fixed costs.

Recognizing costs - There are two ways of recognizing costs that must be considered in selecting a specialty animal enterprise. They are explicit and implicit costs. Explicit costs are those in which an actual cash payment is made when something is purchased and used in an enterprise. Explicit costs, such as breeding livestock and feed, are easily seen, understood, and recorded.

Implicit costs are costs for which no cash or money is actually spent for something used in an enterprise. Implicit costs are harder to identify and include in records.One example would be Jenny's use of an unused building on her parents' property for raising rabbits. Jenny's parents may not charge her anything to use it, but if it belonged to a neighbor, Jenny would have to pay rent. Another example is Jenny's labor, or time she spends working with her enterprise. It is not actually costing Jenny money, but if she were working for someone else, she would get paid for her time.Why is it important to know implicit costs, since money is not being spent for them? If all costs are not known, the profit will appear larger than it actually is and will not be accurate. For example, Tom found that after three months of raising laboratory rats, he made $500. He then doubled his project size, hoping to double his profits to $1,000. Tom found that he must hire someone after school to help with the extra rats. After three more months, he only made an additional $750, not $1,000 as he had expected. Tom had overlooked his labor (an implicit cost) for the first three months, but when he had to pay for the extra help he could not overlook the hired labor (an explicit cost).

Start-up costs - The start-up costs for different specialty animal enterprises will vary greatly as was shown in Lesson 2. The two major start-up costs for specialty enterprises are for breeding animals and for housing/shelter facilities and equipment. Figure 3.1 compares animal purchase costs.

Figure 3.1-Animal Purchase Costs

High Cost ($150+)
- Horse
- Some dog breeds (per dog)
- Fur animals (1 pair)

Medium Cost ($50-$150)
- Catfish (per 100)
- Some dog breeds (per dog)
- Goats (1 doe)
- Laboratory animals (1 colony)
- Game birds (per 50)

Low Cost (up to $50)
- Bees (1 hive)
- Tropical Fish (each)
- Rabbits (1 pair)
- Some cat breeds (per cat)
- Laboratory animals (1 pair)

There are different factors which may affect the purchase price and determine cost. Different breeds of dogs, cats, and horses sell for different prices. The number purchased also affects start-up costs. Sometimes a minimum number must be raised to have a market. For example, to sell mink pelts, a wholesale buyer might require a minimum number of 200.

The size of animals purchased affects price. Eight-inch catfish cost more than four-inch fingerlings. Pregnant doe goats cost more than unbred does. The quality of the animals will also affect the cost. The color of a mink's fur has a very big relationship to its price. Registered animals cost more than grade animals. Animals from a well-known breeder cost more than from an unknown breeder.

Costs for equipment and facilities also vary considerably. Figure 3.2 compares such costs.

Figure 3.2-Equipment and Facility Costs

High Cost (150+)
- Horse
- Fur animals
- Laboratory animals (1colony)

Medium Cost ($50-$150)
- Catfish
- Dogs
- Bees
- Goats
- Cats
- Game birds (50)

Low Cost (up to $50)
- Tropical fish
- Rabbits
- Laboratory animals (1 pair)

Several factors affect the cost of facilities and equipment. There may already be facilities and materials available. A number of pens for minks can be placed in an old chicken house. If that is not available, it would be necessary to build an individual shelter for each outside cage.

Animal requirements differ. Horses and goats will need winter shelter. Facilities for young animals such as kid goats, puppies, or rabbits are very important, especially if they will be born during unfavorable weather conditions.

The more automated the facilities, the higher the cost. Automatic waterers reduce labor needs and may be essential if there are a large number of animal cages.

Time is an important factor. If there is enough time, it is often economical to build the facilities. For example, hutches may be purchased for the first rabbits, and then additional hutches built as the enterprise expands.

Operating cost comparisons - Operating costs for start-up specialty animal enterprises are not as variable as are the start-up costs for the animals and equipment. For example, feed costs from one dealer to another will vary, but usually not by very much. Figure 3.3 compares feed costs for the various specialty animals.

Figure 3.3- Feed Costs

High Cost ($150+)
- Horse
- Dogs
- Fur animals
- Catfish
- Laboratory animals (1 colony)

Medium Cost ($50-$150)
- Goats
- Cats
- Game birds (50)

Low Cost (up to $50)
- Rabbits
- Bees
- Tropical fish
- Laboratory animals (1 pair)

Just as many factors affect the cost of facilities, many factors affect the cost of feed. The quantity of feed required varies according to the specialty animal. For example, one horse will eat as much as several goats do. The quantity purchased also affects price, as larger amounts cost less per unit.

Some animals such as catfish and fur animals require special diets that may have limited suppliers. The growth stage also affects price; as animals get larger their feed protein level often is reduced, resulting in lower-priced feed materials. Pregnant animals and young animals also require special diets. Preparation time needed and quantity of feed required must also be considered. Some feed materials are available at low cost. Bees, unless in a new hive or a severe winter, require no feed. It is possible to raise goats on unused farm ground.

Health care costs also vary considerably from one specialty animal enterprise to another, as shown in Figure 3.4.

Figure 3.4-Health Care Costs

High Cost ($150+)
Horses

Medium Cost ($50-$150)
Goats
Cats
Dogs

Low Cost (up to $50)
Rabbits
Bees
Fish
Fur animals
Laboratory animals (pair or colony)
Game birds

Horses and dogs will require several veterinary visits per year. Vaccinations, deworming, and hoof trimming also increase costs. Some animals such as bees, rabbits, and fur animals normally have low health care costs. However, constant observation is required as a disease outbreak in any enterprise may spread between animals and shut down the business.

Marketing costs are hard to compare between enterprises until the marketing possibilities are identified. If a wholesaler picks up the animals, cost will be less than if they must be delivered to a distant location.

Enterprise comparison - It may help to compare several different specialty animal enterprises to see the different costs for each. Two different specialty animal enterprises such as rabbits or fur animals may be compared. One could also compare two different sizes of the same specialty animal enterprise, such as a 5- or 10-head milking goat herd. For example, study the possible costs for 10-doe and 100-doe rabbit enterprises. See Figures 3.5 and 3.6.

A third method of comparison would involve comparing the cost for two different years of a possible specialty animal enterprise. Start-up costs could be less during the second year of the enterprise, or they could be greater if the enterprise expanded and needed larger facilities or equipment.

Labor Required for Various Specialty Animal Enterprises

Start-up labor- The amount of time or labor required to start each specialty animal enterprise will be different. It may take considerable time to locate a source for breeding stock. Visit the facilities, talk with previous buyers, and compare several different breeders or suppliers. Sometimes animals may be bought from the person down the road; sometimes from a breeder two states away.

If usable facilities exist, it will still take time to clean them and fix them up to meet specific needs. Storage shelves or bins may be needed. New doors or windows may be needed. Fences may need to be built or repaired.

Sometimes used facilities and equipment may be purchased. It will still take time to locate used materials and to examine them. Once started, continually watch for used materials in good condition to expand the enterprise.

If expanding the enterprise by building pens or houses, adequate time must be allowed for construction before they are needed. For example, minks breed only once a year and must be settled into their pens before breeding season. Cage catfish must be grown to market size before the pond freezes.

Operating labor - Nearly all specialty animal enterprises require a certain amount of daily labor. Daily care includes feeding, watering, observation, and cleaning of pens. Often pens can be built so that pen cleaning need be done only a limited number of times per week, but feeding and watering dishes must be cleaned daily. Bedding or litter may need to be changed daily for some enterprises. Automated equipment can reduce the amount daily labor re-

100

quired. Self-feeders and self-waterers are essential for larger operations. Equipment and facilities must be checked frequently and repaired immedialtely.

Labor required for breeding of the animals will be different. If goats are artificially inseminated, close observation is required to detect heat. Mares are usually taken to a stud horse and left for several days. Buck rabbits are put into the doe's hutch and then removed.

Birth is a critical time for many specialty animal enterprises. Pregnant animals such as mares and female goats must be closely watched and will need to be checked frequently as delivery approaches. When it is cold, kid goats can chill and die rapidly. Preparation of birthing facilities may take time. Considerable time will be required for such things as vaccinations and cleaning of litter in taking care of the mother and newborn. The weaning process can be time-consuming as well.

Marketing labor - The way animals are marketed will determine labor needs. If all catfish are sold live to a buyer at one time, little labor will be needed. If the fish are cleaned and sold to the public, considerable time will be required for the processing and delivery.

Available time - Determine how much time is available. Also determine when it is available. How much effort one is willing to put out is important. For example, is Greg willing to get up early to feed his animals before school? Is he willing to get up during the night to check on pregnant animals?

Make a daily and weekly time log. Include on it responsibilities to parents, school activities, church activities, etc. Make a separate log for the summer. Be sure to put in leisure activities such as swimming or softball. Include the family vacation.

Use of Cost and Labor Information to Select an Enterprise

When selecting a specialty animal enterprise, it is important to know cost information and labor requirements for each enterprise.

One objective of a specialty animal enterprise to make a profit. To do so, the income expected from each enterprise must be estimated. A budget should be developed to show income and expected profit. Budgets for each enterprise being considered should be developed, then compared on 1) start-up costs, 2) operating costs, 3) income over variable costs, 4) labor requirements, 5) return on labor, and 6) return on investment.

The individual also needs to consider if the enterprise would maximize use of available time, maximize use of hired labor, and match time available to time required. Sandy, a high school freshman, is considering raising rabbits for her SAE program. After considering other responsibilities (e.g., basketball, chores, homework), Sandy feels that she would have the necessary 30 minutes each day to spend with a 10-doe rabbit enterprise.

Finally, consider available facilities, available capital for start-up costs, available capital for operating costs, and relationship to other enterprises or activities.

Summary

Selecting a specialty animal enterprise that will work for the individual is not easy. It is hard to compare specialty animal enterprises because they are so different. Costs and labor requirements are two major components that should be compared for the enterprises being considered.

It takes time and study to compare enterprises. It will be necessary to find information for the specific specialty animal enterprises that are of interest. When comparing enterprises make sure the information is accurate and covers all costs and time requirements. Several individuals, such as the agricultural education teachers, parents, and individuals already in the specialty animal business,can provide information.

Credits

Missouri Farm Planning Handbook (Manual 75). University of Missouri-Columbia: University Extension, 1986.

Miniemeyer, Donald L. Agricultural Enterprise Budgets - Analysis, (Microcomputer program). Pennsylvania State University, Dept. of Agriculture and Extension Education, 13 Armsby Building, University Park, PA 16802.

Morse, Roger A. The Complete Guide to Beekeeping - New, Revised Edition. NY: E.P. Dutton, 1980.

101

Raising Catfish for Food and Fun. Jefferson City, MO: Missouri Department of Conservation, 1983.

Raising Rabbits for Beginners. University of Missouri-Columbia: University Extension.

Wildlife Code of Missouri. Missouri Department of Conservation, 1987.

FIGURE 3.5

BEGINNING RABBIT BUDGET[1]
(10 DOES, 2 BUCKS)

ASSUMPTIONS: A desire to raise rabbits but no experience in raising them.
Market is available for live rabbits.
An existing building is available for rabbit hutches. (Rabbits can be successfully raised in hutches outside on a small scale.)
Expect 4 litters per doe per year, 6 bunnies weaned per litter, 4 pound selling weight of bunnies; 8% death loss of breeding stock per year plus 8% of does culled each year.
Four pounds feed required per pound of fryer sold (includes feed for doe and share of buck).
About 30 minutes labor spent for caring for rabbits, provided by operator.

					MY FARM
1.	GROSS RECEIPTS:	No. Animals x Selling Weight x Price per Pound	=	Total	
a.	Bunnies: 9 does x 4 litters x 6 weaned = 216. Save 2 for replacements annually.[2]	214 x 4# x $.55/lb.[2]	=	$470.80	
b.	Does: 1 sold	1 x 8# x $.20/lb.	=	1.60	
c.	Rabbit manure: 100#/doe including 4 litters/year	100# x 10 x $3/cwt. or $15/pickup load	=	30.00	
2.	TOTAL GROSS INCOME			$502.40	
3.	VARIABLE COSTS:				
a.	Feed:[3] 216 bunnies @ 4# = 864# meat x 4# feed/lb. meat = 3,456# feed needed	3,456# at $.11/lb. (50 lb. bags)	=	$380.16	
b.	Medication, drugs, hydrated lime, and miscellaneous expenses			50.00	
c.	Utilities in building, electricity, and water			20.00	
d.	Marketing (buyers pick up at farm)			--	
e.	Added nesting material at kindling			10.00	
		TOTAL CASH EXPENSES		$460.16	
f.	Interest on cash expenses[4]	$460.16 x 1/4 yr. x 11%	=	12.65	
4.	TOTAL VARIABLE COSTS			$472.81	
5.	INCOME OVER VARIABLE COSTS[5]			$ 27.28	

---

[1] Adapted from The Missouri Farm Planning Handbook (Manual 75).
[2] Live weight. Some small producers are receiving 55 to 60 cents per pound.
[3] If additional rabbits (above 16%) are kept for replacements, it may take 5 to 6 pounds of feed per pound bunny sold.
[4] Interest charge is computed at 11% annual rate on 25% of lines 3-7.
[5] Income to pay labor, management, and capital investment costs.

BEGINNING RABBIT ENTERPRISE

CAPITAL INVESTMENT:

Breeding stock, 10 does and 2 bucks @ $10 ea.	$120.00
Individual wire hutches, 30" x 36" x 18", 12 @ $12 ea.	144.00
Individual metal feeders, 12 @ $2 ea.	24.00
Individual waterers, 12 @ $2 ea.	24.00
Nest boxes (for kindling), 8 @ $1 ea.	8.00
Extra insulation and used 20"-24" electric fan	50.00
TOTAL	$370.00

OBSERVATIONS:

Expected income per year over variable costs of $27.28 for 10 does and 2 bucks represents a 7.3% return on capital invested in the example. Income is not sufficient to service a loan for $370 capital investment. If money were available from other sources for cash expenses, then interest charge could be eliminated. Extra utilities may also be reduced. So, it's possible some persons may realize $50-$60 income above variable costs from 10 does having 4 litters each year and weaning 6 bunnies per litter. Investments must be kept low if the project is expected to be profitable.

Some producers are obtaining 5 litters per doe per year with 8 bunnies weaned per litter which could result in $60 income over variable costs from 10 days. Added feed needed and other cash costs in the example are included.

FIGURE 3.6

STANDARD RABBIT BUDGET[1]
(100 DOES, 8 BUCKS)

ASSUMPTIONS:

- -Manager has some experience in raising rabbits.
- -A market is available for live rabbits.
- -An existing shed is available for rabbit hutches, but some remodeling will be needed.
- -Expected 4.5 litters per doe per year; 6 bunnies weaned per litter; 8% breeding stock death loss; 8% of does and bucks culled each year.
- -Estimate 1.5 hours labor daily for 365 days to care for rabbits, or 550 hours annually, provided by operator.

					MY FARM
1.	GROSS RECEIPTS:		No. Animals x Selling Weight x Price per Pound = Total		
	a.	Bunnies:100 does x 4.5 litters x 6 weaned = 2,700. Save 20 for replacements annually.[2]	2,680 x 4# x $.58/lb.	$6,218	
	b.	Does: 10 sold	10 x 8# x $.18/lb.	14	
	c.	Rabbit manure: 100#/doe/year	100 cwt. x $3/cwt.	300	
2.	TOTAL GROSS INCOME			$6,532	
3.	VARIABLE COSTS:		# feed needed x Price per pound		
	a.	Feed: 2,700 bunnies @ 4# = 10,800# meat x 4# feed/lb. meat = 43,200#	43,200# x 10.5 cents =	$4,536	
	b.	Medication, drugs, etc.		60	
	c.	Utilities		100	
	d.	Marketing (buyers pick up at farm)		--	
	e.	Miscellaneous		50	
			TOTAL CASH EXPENSES	$4,746	
	f.	Interest on cash expenses[3]	$4,746 x 1/4 yr. x 11%	130	
4.	TOTAL VARIABLE COSTS			$4,876	
5.	INCOME OVER VARIABLE COSTS[4]			$1,656	

[1] Adapted from The Missouri Farm Planning Handbook (Manual 75).

[2] Assume 8% breeding stock death loss occurs before kindling and 8% culled.

[3] Interest charge is computed at 11% annual rate on 25% of lines 3-7.

[4] Income to pay labor, management, and capital investment costs.

CAPITAL INVESTMENT:

100 does + 8 bucks @ $7 ea.	$1,080
110 wire hutches, 30" x 36" x 18" @ $10 ea.	1,320
110 individual feeders @ $2 ea.	220
Automatic watering system, individual valve for each hutch	320
Nest boxes for kindling, 100 @ $1 ea.	100
Insulation, wiring, and electric fan	250
TOTAL	$3,290

OBSERVATIONS: This level of income could pay for the investment in two years at 13% interest charge. Capital expense, spread over four years, would reduce income $810, giving a net income of $846. But, before making this kind of investment, it is essential that a dependable market outlet for bunnies can be obtained.

FIGURE 3.7 - 10-Doe Enterprise

ENTERPRISE 1: Rabbits (10-doe enterprise)

Starting Date: March 1 Ending Date: Feb. 28

I. START-UP LABOR REQUIREMENTS	Hours
Facilities:	
Purchase ready to use	
Build new	30
Remodel/fix up existing	
TOTAL	30
Breeding/growing stock:	
Locating	2
Selecting/picking up	3
TOTAL	5
Other:	
Cleaning out building	5
TOTAL START-UP LABOR	40

II. OPERATING LABOR REQUIREMENTS	day (min)	total hours
Feeding		52.5
Watering		30
Cleaning		60
Health Care:		
Breeding		10
Birth/delivery		10
Care of young:		
Cleaning nest		10
Marketing:		
Catching/delivery		10
Other:		
TOTAL OPERATING LABOR		182.50

.85 hours (53 min.) per unit marketed, 214 rabbits marketed

FIGURE 3.8 - 100-Doe Enterprise

ENTERPRISE 1: Rabbits (100-doe enterprise)

Starting Date: March 1 Ending Date: Feb. 28

I. START-UP LABOR REQUIREMENTS

	Hours
Facilities:	
Purchase ready to use	5
Build new	
Remodel/fix up existing	50
TOTAL	55
Breeding/growing stock:	
Locating	2
Selecting/picking up	3
TOTAL	5
Other:	
Set up water system	20
TOTAL START-UP LABOR	80

II. OPERATING LABOR REQUIREMENTS

	day (min)	total hours
Feeding		120
Watering (Automatic)		
Cleaning		200
Health Care:		
Breeding		40
Birth/delivery		50
Care of young:		
Cleaning nest		100
Marketing:		
Catching/delivery		40
Other:		
TOTAL OPERATING LABOR		550

.20 hours (12 min.) per unit marketed, 2,680 rabbits marketed

Lesson 4:

Regulations Concerning Specialty Animal Production

No one likes a lot of rules and regulations. Throughout life there are many that must be tolerated because of membership in a society. As regulations are studied, the reasons behind them should be understood.

Reasons for Regulating Specialty Animal Enterprises

Wildlife protection - Regulations relating to raising animals may vary from state to state. Specialty animal enterprises studied in the unit that are affected by wildlife or conservation regulations include catfish, game birds, exotic animals, and fur farming or ranching.

In Missouri, commercial fish farming operations are not licensed by the Department of Conservation. The fish must be purchased from a legal source such as another fish farmer or commercial fisherman. The bill of sale must be kept as proof of purchase. Then it is legal to transport, grow, propagate, and sell the fish. There are some requirements and permits required in Missouri for other types of fish.

Raisers of game birds and fur animals such as minks or foxes must have a Missouri Wildlife Breeder's Permit. There is a yearly fee for the permit. Breeders must maintain records showing the number and species of wildlife, and where they were bought, sold, or used. Breeding animals must be purchased from a licensed breeder. They cannot be taken from the wild stock of the state.

Disease control and prevention - Regulations are established to prevent the spread of disease. An outbreak of a serious disease would cost producers a large amount of money and might result in the deaths or destruction of an entire breeding unit. Some regulations are established to make sure that animals sold to others or transported across state or county lines receive certain vaccinations. Other regulations may require that the animals be inspected and receive a shipping permit before being sold or transported. Health certificates may be required before an animal can be sold or exhibited at a fair.

Such regulations are of benefit to a specialty animal producer. Specialty animal enterprises are considered intensive production. There are many animals in a small area, so diseases spread rapidly. The best disease control practice is to keep the disease out.

Protection of property rights - Regulations are also designed to protect the property rights of others. They have special application to specialty animal enterprises, since such enterprises are sometimes located in urban rather than in rural areas, and the property rights of neighboring land owners must be recognized.

People do not like buildings or other structures such as pens or hutches that are ugly or unkempt on land next to them. They are concerned that the buildings will reduce the value of their own property. Zoning regulations may regulate where certain types of enterprises can be located, how many animals may be kept by an owner in certain sections of town, what kind of animals may be kept in town, or the minimum amount of land needed to raise certain animals.

The noise from certain enterprises can be a bother to neighbors. Barking dogs from a kennel can disrupt people's sleep or ruin their outside activities. The smell from a large rabbit or dog operation can be offensive to neighbors.

Some animals are disruptive or damaging to other people's properties. Goats can damage or kill a neighbor's fruit trees. Horses can trample a garden if they get out. Laws and regulations have been established to make sure that fences are built or maintained.

Personal protection - Since buildings are closer together in town, there is a danger of fire spreading from one building to another. Wiring and heating systems may require building permits and inspections.

Regulations are also established to prevent personal injury to others. Since some dogs are dangerous, many cities have leash laws that require dogs to be tied up or inside fences. There may be local regulations restricting where bee hives are put to reduce the chances of someone getting stung.

When foods such as fresh or frozen catfish or goat's milk are sold by specialty animal producers, there is always a chance for contamination, disease, and food poisoning. Local, state, and federal regulations may affect sales to the public, retailers, or wholesalers. There are state laws regulating the packaging of food products. The package must have a label that tells:

1. The name of the product
2. The name and address of the packer or distributor
3. The net contents or how much is in the package
4. Preservatives and artificial flavoring or coloring added

If selling products from a specialty animal enterprise to the public for food, check with the county and state divisions of health. There is also a chance of contamination from drugs or medications, so the proper administration of medication is important, as well as withdrawal periods for medicated feeds. Certain human diseases may also be transmitted by unprocessed food products. That is why milk usually requires pasteurization.

Humane animal treatment - There are not large profits in most specialty animal enterprises, so producers tend to cut corners. They may do things that are inhumane to animals to save money. Too many animals may be crowded into a pen or cage. Cages or pens may not be clean. Animals may not be fed properly or on a regular schedule. Producers may not provide the proper health care. Animals may be left out in cold weather or under the hot sun without proper shelter. Inhumane ways of stunning or killing animals may be used during processing. All such bad treatments have led to the growth of animal welfare groups. Such groups are getting laws passed at state, local, and federal levels regulating how animals are raised and treated.

Animal Welfare Act - Many of the specialty animals such as minks, dogs, and laboratory animals are at the center of animal welfare legislation. The Animal Welfare Act passed by Congress affects animals in interstate (between different states) commerce and foreign commerce. It was passed to insure that animals used for (1) research and experiments, (2) exhibition, and (3) sale as pets be provided humane care and treatment. It also makes sure that animals being transported are treated humanely.

The act sets standards for such things as housing, care and handling, treatment, and sale. It specifies that records must be kept relating to the purchase, identification, transportation, and sale of animals.

The act establishes provisions for licenses, for dealers, and for exhibitors of animals. Producers must have records that show their facilities meet the standards of the law. Penalties including fines or jail sentences can be given to people who violate the law.

Certain activities and people are exempt from the law, such as purebred cat and dog shows, state and county fairs, and retailers with income below a specified level.

The primary animals in the unit related to the Animal Welfare Act are dogs, cats, and laboratory animals. In general, producers should check to see if they must meet the law's standards if they are involved in any of the following:

Research facilities using animals
Carriers or transporters of animals
Exhibitors of live animals
Dealers of live animals

Other regulations are established to maintain the quality or purity of breeding animals. Purebred animals sell for premium or high prices. People buying such animals expect and demand quality. Breed associations set minimum qualifications that an animal must meet to be registered or to be entered in shows. Sometimes special titles or awards are given to denote outstanding performance. Animals with certain defects cannot be registered or sold by purebred breeders.

Specialty Animal Enterprise Activities Requiring Regulations

Housing - A building permit may be necessary when constructing new buildings or remodeling old buildings for a specialty animal enterprise. To get a permit, it is necessary to have a detailed plan and a bill of materials. Special permits may be needed if electrical or plumbing work is involved. Usually there will be several inspections required during the construction work, plus a final inspection.

For some specialty animal enterprises there will be regulations relating to the size of pens for animal containment. The type of shelter may also be specified. Sometimes the maximum number of animals that can be kept in a given location will be regulated.

Missouri does have standards for raising wildlife such as minks and foxes. Minimum sizes are given for cages or pens. Producers must also provide clean water, shelter for security and protection from the weather, proper feeding, and cleaning of pens.

People building new ponds for catfish farming should check with the Soil Conservation Service and the Division of Fisheries of the Department of Conservation. There may be regulations affecting the damming up or impoundment of water as well as the release of water when ponds are lowered to harvest the fish. With water a limited resource, there will be regulations relating to the pumping of water from wells or rivers to fill fish ponds. People using chemicals to clean an existing pond of unwanted fish must get a permit from the Department of Conservation.

Location - All cities and many counties have zoning regulations. Such regulations place land into certain zones or classifications. There are restrictions on the types of activities that can take place in each zone and the types of buildings that can be built in it. Zoning may also regulate how large a specialty animal enterprise may be in a certain zone.

Sometimes the classification of a piece of land can be changed. Usually there is a formal application procedure and a hearing before a county or city committee. Neighboring property owners have a right to respond to the producer's request for a zoning change. A petition of neighbors can block a zoning change in some cities or counties.

There are also regulations relating to the containment of animals, which may be city or state regulations. The acts of animals kept as pets or as part of an enterprise may subject the owner/producer to legal liabilities. If a goat or horse gets out and damages someone's property, the owner may be responsible. For example, if Sam's dog bites a visitor, especially if it is someone wanting to buy one of the dog's pups, Sam may be responsible.

Purchasing animals - The purchasing of wildlife such as fish, game birds, and fur animals is regulated by the Department of Conservation. Wildlife must be purchased from a commercial dealer or wholesaler. For most other specialty animals there are very few regulations relating to the purchase of the animal, but there are regulations relating to its transportation and sale which will be discussed next.

Transporting Animals - There may be local, state, and federal regulations relating to the transporting of specialty animals. The size and type of container used may be regulated. There may be regulations as to the length of time an animal can be transported before it is given food and rest. Shipping animals on airplanes may involve other regulations. The Animal and Plant Health Inspection Service of the USDA has specific regulations relating to the handling of animals such as dogs, cats, and rabbits during transportation.

Animals shipped from one part of the country to another may require health certificates and certain vaccinations. Animals coming into one city or state from another may be placed in quarantine, or isolated from all other animals for a certain time, to be sure they are healthy.

People involved in the shipment of animals may be required to have a dealer's license. They will generally be required to keep records of the number of animals shipped and any problems.

Selling and processing specialty animals - In many cities or counties, people selling specialty animals or specialty animal products are required to get business permits. There are usually general requirements to make sure the person follows ethical or honest business practices. For example, most larger cities have special permits and regulations for pet stores.

Some specialty animals must be given certain vaccinations before they can be sold. The vaccinations may be given by the owner/producer, a veterinarian, or the dealer or wholesaler.

For example, if a part of Mike's specialty animal enterprise involves selling food that will be consumed by people, there will probably be regulations affecting him. If Mike sells goat's milk, there may be sanitation requirements for his milking facilities and milk storage equipment. The building may need to pass inspection for such things as cleanliness and tightness to keep out birds and rodents. There will be procedures for sanitizing his milk-handling equipment. Plumbing and electrical systems may need to meet minimum standards, as will the refrigeration facilities.

There may also be similar regulations designed to protect the safety of the customer for the processing and selling of fish or rabbits to local retailers, restaurants, or individual customers. Even when selling to a wholesaler there may be regulations that affect the operation. Wholesalers may establish their own regulations and require that anyone selling to them meet their regulations. With many specialty animal enterprises there are a limited number of buyers, so the small producer must meet buyer regulations.

Some selling activities involve potential injury to the customer. For protection, liability insurance may be needed. There is always the possibility of an accident at a fish-for-fee pond, or if people pick up fingerlings at a fish farm, for example. For horse owners, there is always a chance that people could get hurt while inspecting or riding a horse they might buy. Owners must protect themselves with adequate liability insurance.

Sources of Information about Regulations

There are four different levels of government that may develop regulations affecting specialty animal production. These are:

1. Federal/National
2. State
3. Local - county
4. Local - city

Federal regulations must be followed by all states. Likewise, state regulations must be followed by cities and counties. In some instances states and cities may set stricter requirements, but they cannot override a higher level and make regulations easier.

A producer needs to be aware of regulations that affect the business. Sometimes it is hard to determine such regulations and the producer is in trouble before knowing it. One of the steps in selecting a specialty animal enterprise is to identify related regulations. To do so, the producer must know information sources, or where regulations may be found.

Other producers of a specialty animal enterprise are a good source of information. However, if they live in a different area, they may not be aware of special regulations in a particular county or city. Producers should also check with the local agricultural extension service and the agricultural education instructor.

If unsure of which city office to contact, get out the local phone book and look under Government - City. County offices are usually located in the county-seat city. The specific departments to contact will depend upon how large the city is. Look for such departments as zoning, building permits, animal control, or health. Ask parents or teachers to help find the agency to contact.

Departments or divisions within the state government that regulate specialty animal enterprises may be harder to locate. Two important departments are the State Department of Agriculture and the State Department of Conservation. The State Department of Health may also have regulations for enterprises relating to public food consumption. Such departments may be able to send information about their regulations. There may also be an employee in the department who serves and visits specific areas of the state. The addresses are:

Missouri Department of Agriculture
1616 Missouri Blvd.
Jefferson City, MO 65101
(314)751-4211

Missouri Division of Health
Broadway State Office Building
Jefferson City, MO 65101
(314) 635-4111

Missouri Department of Conservation
P.O. Box 180
Jefferson City, Mo 65101
(314)751-4115

The Cooperative Extension Service at the University of Missouri or Lincoln University may have information available. They publish numerous guides and pamphlets relating to agriculture and many specialty animal enterprises.

Do not overlook the state agricultural college, which will have departments and faculty members in most of the specialty animal areas. A visit may well be worth the time spent. The agricultural education instructor should be able to help identify the correct department to contact.

There are also private sources of information about specialty animal enterprise regulations. Breed associations may have the information needed. There may be state organizations of specialty animal producers such as the Missouri Fish Farmers' Association. There are breed associations on regional and national levels also. They will have people who keep track of regulations affecting a particular type of animal.

The United States Department of Agriculture (USDA) is the federal department which will have the most regulations relating to specialty animal enterprises. It will be harder to determine which specific service of the Department of Agriculture to contact since it is so large. The USDA publishes many books, pamphlets, and leaflets relating to specialty animals which may contain information on federal regulations. The publications may be available from the local cooperative extension service office, or may need to be ordered from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

There are also national producers' organizations of some specialty animals such as the National Honey Packers and Dealers Association and the National Board of Fur Farm Organizations, Inc. Since they represent a national interest, they will be very aware of regulations affecting their industries.

Do not overlook state senators or representatives. They have a staff in Washington and contacts that may get the information needed. They may also be able to get copies of government publications.

Summary

A vital part of selecting a specialty animal enterprise involves determining the different laws, rules, and regulations that must be followed. Depending upon the enterprise selected, there may be regulations relating to purchasing, housing and location of animals, transporting and selling of them, and the final processing of food or products. Know what permits are required and how to get them. No one wants to start an enterprise and then be forced to close it down or make expensive changes because of an unanticipated regulation.

It is easily recognized that many of the regulations exist for the protection of the producer and the consumer, as well as for the humane treatment of the individual animal. There are sources of information to help identify and meet the regulations, so that potential specialty animal enterprise owners may be informed of guidelines and regulations which affect them.

Credits

Farmers' Liability For Their Animals. UMC Guide No. 453, University Extension, University of Missouri-Columbia.

Hanson, Loise S., Lily A. Davis. The Basic Beekeeping and Honeybook. NY: David McKay Co., Inc., 1977.

Liability of Farm Owners and Operators for Injuries to Farm Visitors. UMC Guide No. 452, University Extension, University of Missouri-Columbia.

Standard Guidelines for Operations of Mink Farms in the United States. Fur Farm Animal Welfare Coalition, LTD. 114 Metro Square Bldg., St. Paul, MN 55008.

112

Lesson 5:
Marketing Options for Specialty Animals

Sometimes people build or raise something, then find that there is no market for it. Nobody wants it, or only wants to pay a low price for it. That is a marketing problem.

Marketing Options

There are several marketing options available to the specialty animal producer depending on the specialty animal.

Grade animals - For many beginning specialty animal producers, raising grade or unregistered animals is the best choice. It takes less money to get started, since grade animals can be purchased for less. Frequently grade operations take less time, because less paperwork is required; therefore, the producer may have time to raise more animals. The inexperienced producer might have more success with a grade animal operation, because the success of a purebred operation depends on the experience of the producer as well as the bloodlines of animals produced.

Purebred animals - Raising purebred registered animals is another market. Registered animals sell for more money so there is a potential for more profit per animal. If a producer establishes an outstanding bloodline, or has animals that regularly win top awards at shows or fairs, premium prices may be paid for the animals sold. That can be very important when resources are limited. For example, if a producer has only a few acres, not many horses could be raised.

Purebred registered animals cost more to purchase, so there is a higher investment. The operating costs will also be higher. If purebred animals are being sold, buyers will expect the facilities to look better. They will not think a first rate horse can be raised on a run-down horse farm. As a result, more time must be spent repairing buildings and facilities and keeping them clean.

Purebred buyers expect their animals to be better trained, so more time must be spent with each animal. Frequently purebred animals are shown at fairs and breed shows; this gives the owner exposure to potential buyers.

Purebred animal production requires more management skills. Careful and accurate records must be kept. Identification of each animal is important. It is important to know bloodlines so that animals can be bred to produce outstanding characteristics and improve weaknesses in their lines. It is important to keep up with the animal industry in order to know what other breeders are wanting. As experience is gained and skill developed in the production of a specialty animal, a producer can start to sell services to go along with that specialty animal. It is one of the best and easiest ways to make more profits, since many people are willing to pay well for a service they cannot do or are not willing to do.

Selling services - Training animals is one service possibility. Breaking a colt is a simple service. Training a show horse is a more complicated service that takes more time. Training a dog to hunt or to herd cattle or sheep is another service. Sometimes one well-trained animal may be sold for the same price as two or three untrained animals; time is the major additional investment.

Since there are already facilities for a producer's animals, it is often easy to expand the facilities and take care of other people's animals. Operating a kennel to care for people's dogs and cats while owners are on vacation is one example. Providing board in a stable is another. One can usually charge enough to cover all expenses plus extra, as a return for time and investment. Sometimes a special permit is required to operate a public service. Insurance is essential in case of accident and animal injury.

Providing stud service is an additional source of income for some specialty animal producers. A producer may have an outstanding male animal that has a winning reputation at shows. People will be willing to pay for that bloodline. Other producers do not want to be bothered with caring for a male year around so they are willing to pay stud fees. "Pick of the litter" stud fee is one way of bringing new bloodlines into an enterprise for animals such as dogs and cats.

How finished a product is will determine its final selling price. Catfish may be sold live or dressed and cleaned. In the same way live fur animals may be sold or the pelts sold at a higher price.

Sales strategies - Markets for specialty animals are not as available as for other agricultural products. It may be necessary to develop a market for the specialty animal desired. It may take a lot of time and work to develop a market.

With some specialty animals, it would be necessary to produce a steady supply so that customers could depend on it. Dealers must be able to depend on the supplier to have animals or animal products ready on time. If products are sold directly to buyers, buyers do not want to make several trips to pick up the goods.

Sometimes it is easier to market specialty animals if a certain number or quantity is involved. For example, at least 200 minks or pelts would be needed to interest a buyer other than a local pelt buyer, who would not pay as well.

The quality of the animal or animal product is important. Buyers are willing to drive farther or pay higher shipping costs if they know the quality is worth it.

Advertising is essential to develop a market, especially if direct sales are involved. Advertise in local newspapers or in trade magazines that specialize in the animal being raised. In many communities, stores such as grocery, feed, or general merchandise will have bulletin boards where cards may be placed. If selling to the public, it takes continuous advertising so people recognize a particular name and product.

It may be necessary to deliver animals or products to a dealer when first getting started, which may involve a considerable distance. Special shipping containers for fish or cats and dogs may be needed. As the enterprise builds and others in the community start handling the same type of specialty animal products, a dealer may begin to make local pick-ups.

There may be a local business that would be willing to handle shipping or delivery for a charge. Also consider becoming a dealer, buying from other small producers in order to get enough to sell to a processor or larger dealer.

For some specialty animals there are producer organizations or cooperatives. Producers have joined together so they can market their animals more easily and get a better price. There may or may not be a membership fee. Some organizations will buy from one producer and resell to others. Other organizations handle animals on a consignment basis, charging a certain fee for each animal or for the value of the total group.

It may be possible to sell animals to other producers for breeding or growing stock, especially if high quality registered animals are involved. Fish farmers may hatch and sell fingerlings to other fish farms for growing to market size.

Sometimes animals or animal products such as goat's milk or rabbits may be sold directly to the processor. It is usually done when the processor is in the community or within a reasonable driving distance. Selling directly to a processor can be more profitable since there are no middle-man expenses.

Markets for Specialty Animals

The agricultural marketing system is very complex. Sometimes producers have a number of different markets available. Sometimes they are limited to only one market. It is important to know the different markets for the specialty animal being raised.

Sometimes the animals or animal products can be sold in the local community. Family and neighbors may be a major market for a small enterprise such as rabbits. Many communities have farmers' markets where producers can sell their products. It is possible to sell animals directly off the farm. Fee fishing is another local marketing method.

There may be businesses in the community that purchase animals or animal products. A grocery may be interested in a local supply of fish or rabbits. Other businesses may help. The local feed store may sponsor fish days where they take orders for fish as a way to sell their fish feed.

Many producers of specialty animal enterprises sell directly to dealers or wholesalers, who in turn sell to the processor or a final retail store such as a pet store. They must make enough to cover the costs of shipping and storing, as well as make a profit for their time and investments.

Such dealers may be located within the state, in a nearby major city, or in another state. They may pick up at the farm, or it may be the producer's responsibility to deliver to them. Dealers may make shipping arrangements, and the producer then is responsible for getting animals to a transporter such as an airline. Special equipment such as a tank or shipping cages may be needed to deliver to such buyers.

Often dealers will base their prices on certain characteristics or grades. If they do, the producer needs to know their specifications in order to get premium prices and avoid discounts or penalties.

It was mentioned earlier that there are grower or producer organizations that market animals. Sometimes they will have collection or delivery facilities. Sometimes they make arrangements for the producer to deliver to a certain place at a certain time, or for someone to pick up at the producer's address.

Auctions are another way of marketing animals. If enough animals are involved, producers could hold their own auctions. Often producers will take their animals to a consignment auction where they are sold with other producers' animals. A commission to the auction company is then paid.

Comparing Markets

There are many different things to consider when selecting a market for a specialty animal enterprise. Compare markets using the following factors: price, distance, quantity required, size, delivery schedules, quality, and labor.

Price - To get the most for an enterprise, check several different markets. One market may quote a higher initial price, but then have larger discounts for such things as being too small or large, or being lower grade. It is possible to end up with less money after all charges and discounts.

Distance - It takes time and money to deliver products to a market. Home pick-up at a lower price may net more money. Once a producer is prepared to transport animals (tanks and aerators for fish; cages for dogs and rabbits) it does not take too much more gasoline or time to take them 30 extra miles if the price is better.

Quantity required - Some markets may have a minimum number they will take, or have discounts for too few. Others may pick up at a home only if there is a certain quantity, or may have a charge for small quantities. Some processors have minimum quantities they will accept. Small quantities must be sold to a dealer who combines orders.

Size - The size of the animals involved may affect marketing methods. For example, fingerling catfish 4-8 inches long are sold to people for stocking ponds. Medium-sized catfish 12-14 inches long may be sold to restaurants for eating, while larger fish may be sold to people who have fee-fishing areas.

It is important to know the size of animals involved and the size of animals which sell best in different markets. Then select the market that is best.

Delivery schedules - For some specialty animals there may be a certain time during the year when a buyer will accept delivery, so production must be scheduled to meet such times. Sometimes prices are much lower or higher at certain times of the year. Again, try to hit the high-priced markets. Some dealers or processors accept delivery on certain days of the week, or at certain times of the day such as in the early morning, so inquire about their schedules. Extra equipment for heating or cooling the animals' facilities may be required.

Quality - In some products, such as fur animals, the quality has a very big effect on the selling price. For example, the difference in color and density of a pelt can mean a difference of up to several hundred dollars. At certain times of the year, catfish may have an off-flavor. It is most common in late summer in ponds with large quantities of certain types of algae. A processor may request a few sample fish and then refuse delivery if there is an off-flavor.

Labor - The amount of labor for different markets and marketing options varies considerably. If a fee-fishing area is involved, someone must be there much of the time to control entry and prevent dishonesty in paying for fish caught. If a cage of fish is sold directly to a processor who picks them up, the marketing labor will be low. The labor skill is important and it may be necessary to pay a skilled person to help market the animals. Skinning of fur animals is very critical since a damaged pelt is worth much less. The marketing season also affects labor needs.

A student normally will have more time in the summer than during the school year.

Make a market comparison when choosing a specialty animal enterprise. There are some general comparisons existing between the different markets. They may not hold for any one specific buyer, so check carefully.

Local Markets - Local sales, or selling to the public in an area, often require smaller numbers. There may be a limited market or no market in an area for a particular specialty animal. Local markets often offer a potential for higher prices or more income, since there are fewer people involved, and often producers are marketing their own labor as a part of the product.

Dealers - Specialty animal producers with larger numbers often sell to a dealer or buyer. Dealers are generally a more reliable market, so producers are more sure of being able to get rid of their animals. Dealers may have minimum quantities and often take care of delivery. Dealers often pay premiums. Sometimes they will pay more than a producer can get at a local market, since they combine animals from different growers and can sell at a higher price. Dealers also have a much wider market to resell the animals. Sometimes the market is national or international.

Grower organizations - Grower organizations generally allow producers to get more for their animals than they could by selling them on their own. Such organizations may have contracts with large dealers or directly with processors. Cooperative marketing associations return any money made on the resale to the members growing the animals.

Auctions - Auctions may be more risky. Producers often are not guaranteed a price and must take whatever is bid by the buyers. An auction with a good reputation is less risky since more buyers will be present.

Processors - Processors often offer a higher price since there is no dealer in the middle. However, processing plants are often distantly located. It may not pay to deliver directly if long distances or small numbers of animals are involved.

Summary

There are a number of markets and marketing options for specialty animal enterprises. It is important to identify a market before starting an enterprise. Sometimes a market can be developed for certain animals, but often existing markets must be depended upon.

For example, Mike may be the best producer of a specialty animal in his county or state. However, if he cannot sell his animals, or cannot get a good price for them, the business may not last long. Mike must be able to sell his animals at a price that will allow him to make a profit and a return on his labor and investment.

Credits

Cheeke, Peter R.; Nephi M. Patton; George S. Templeton. Rabbit Production. Danville, IL: The Interstate Printers & Publishers, Inc., 1982.

Lee, Jasper S. Commercial Catfish Farming. Danville, IL: The Interstate Printers & Publishers, Inc., 1973.